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GLOBAL DATA MONITORING REPORT

February 1996

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1. Introduction

As the WMO-appointed lead centre for monitoring surface marine data, the U.K. Meteorological Office produces monthly statistics on the quality of these observations received at RSMC Bracknell. This report includes this information along with statistics for most other types of data. The figures and tables contained herein are presented according to the agreed standards for the exchange of monitoring results.

The report is based on data received at the UK Meteorological Office Headquarters, Bracknell in time for inclusion into the appropriate analysis. The evaluation of data quality is based on comparison with the appropriate 6-hour global model forecast (background field). Generally, the background field is of high quality except in data sparse areas, tropical regions and areas close to steep orography where care should be taken in interpreting the statistics shown.

Comments or queries on the report are welcome and should be addressed to:-

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2 Global Data Monitoring Statistics

Ships, Fixed buoys, Platforms and Drifting buoys observations

TABLES 1-2 contain lists of the stations which are considered to have returned suspect observations of pressure, windspeed, wind direction or temperature, as appropriate, during the month. The criteria for quality control are given on the header page for each table.

Figures 1 and 2 show 10 degree lat/long box average numbers of SHIP/SYNOP and DRIBU observations received per day throughout the month at Bracknell and assimilated into model runs. Only data from the main hours of 00 UTC, 06 UTC, 12UTC and 18 UTC are included. Box average values are plotted as the nearest whole number (values of x.5 are rounded up). Where the average is more than 999, then 999 is plotted. A box with no observations is blank. If the 24 hour average >0 but <0.5, then 0 is plotted.

Synop Observations

Table 3 contains a list of stations which are considered to have returned suspect observations of Pressure during the month. The criteria for quality control are given in the header page. The reporting practice of each station is included in the list of statistics.

At RSMC Bracknell, for synoptic stations at or below a height of 500 metres, reported mean sea-level pressure is used in the statistics. If this is unavailable the mean sea-level pressure is calculated from the reported station-level pressure and temperature.

For synoptic stations above 500 metres, the mean sea-level pressure is calculated from the reported station-level pressure and temperature, or, if these are not available the height of a standard pressure-level (e.g.: 850 hPa or 700 hPa). If neither of these are available, the reported mean sea-level pressure is used.

Some stations vary their reporting practice according to the observation hour (e.g.: some stations in the CIS report both mean sea-level and station-level pressure at 00 & 12 UTC, but only mean sea-level pressure at 06 & 18 UTC). For monitoring purposes, reported mean sea-level pressure is stored separately from that calculated from station-level pressure or height of a standard pressure-level. Only statistics for the preferred method (see above) are presented in this report, and so for certain high-level stations, such as those from the CIS, approximately half of the number of observations actually received will appear in the statistics.

Aircraft observations

TABLE 4 contains a list of statistics calculated from data received from all airline carriers.

Figure 3 shows 10 degree lat/long box average numbers of AIREP/ASDAR reports received per day throughout the month at Bracknell and assimilated into model runs in the layer 70-500 hPa. Observations with a vector wind difference (compared with the model background field) of >60 m s^{-1} have been excluded. Box average values are plotted as the nearest whole number (values of x.5 are rounded up). Where the average is more than 999, then 999 is plotted. A box with no observations is blank. If the 24 hour average >0 but <0.5, then 0 is plotted.

Figures 4-7 show wind statistics for AIREP/ASDAR in the layer 70-500 hPa. Observations with a vector wind difference > 60 m s^{-1} have been excluded. Statistics have not been calculated for 10 degree lat/long boxes containing <31 observations.

Figure	Parameter
4	Mean wind vectors
5	Mean observation - background wind vector
6	Mean observation-background speed (m s^{-1})
7	RMS observation-background vector (m s^{-1})

Radiosonde Observations

TABLES 5-7 contain lists of the stations which are considered to have returned suspect observations of geopotential height, vector wind or wind direction, as appropriate, during the month. The criteria for quality control are given on the header page for each table.

Figures 8 and 9 show 10 degree lat/long box average numbers of TEMP 500 hPa GEOPOTENTIAL HEIGHT and TEMP/PILOT 300 hPa WIND observations received per day throughout the month at Bracknell and assimilated into model runs. Data from all hours are included. Box average values are plotted as the nearest whole number (values of x.5 are rounded up). Where the average is more than 999, then 999 is plotted. A box with no observations is blank. If the 24 hour average >0 but <0.5, then 0 is plotted.

APPENDIX I shows details of the gross error limits used in TABLES 5 and 6 and the weights used in the RMS values in TABLE 5.

Satellite Observations

Figures 10-24 show satellite wind statistics for all geostationary satellites. All plots other than **AVAILABILITY** show average data where there are > 10 observations in a 10 degree lat/long box.

Figure	Parameter Plotted	Layer (hPa)
10	Availability/average daily number	701-1000
11	Vector mean wind (observed)	701-1000
12	Observation-background vector wind difference	701-1000
13	Mean observation-background speed differences	701-1000
14	RMS observation-background vector difference	701-1000
15	Availability/average daily number	401-700
16	Vector mean wind (observed)	401-700
17	Observation-background vector wind difference	401-700
18	Mean observation-background speed differences	401-700
19	RMS observation-background vector difference	401-700
20	Availability/average daily number	101-400
21	Vector mean wind (observed)	101-400
22	Observation-background vector wind difference	101-400
23	Mean observation-background speed differences	101-400
24	RMS observation-background vector difference	101-400

Figures 25-27 show satellite mean observation-background temperature differences for NOAA-12 soundings at 500 km resolution and figures 28-30 show the same statistics for NOAA-14. Data are plotted where there are > 30 observations in a 10 degree lat/long box.

Figure	Layer (hPa)
25/28	850-1000
26/29	100-300
27/30	30-50

3 Composite Observing Systems for the North Atlantic (COSNA)

This section shows statistics for upper air (radiosonde and aircraft) and surface (drifter) data for the North Atlantic area for data received at Bracknell during the month.

TABLE 8 shows quality statistics for **Mean Sea-level Pressure, Windspeed and Wind Direction** received at Bracknell in DRIFTER code during the month for the area
10°N - 80°N, 85°W - 0°W.

TABLE 9 shows quality statistics for **Temperature and Vector Wind** received at Bracknell from aircraft during the month for the area 40°N - 70°N, 60°W - 0°W.

Table 10 - 13 show quality statistics **(Geopotential Height and Windspeed at 100 and 500 hPa)** for all TEMPSHIPS in the area bounded by 0°N - 90°N, 100°W - 40°E and selected TEMP stations within the same area.

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Revisions

1. May 95 Monitoring statistics for NOAA-11 removed. Figures 25-27 now show data for NOAA-12
2. May 95 Notes giving details of observations included in wind direction statistics clarified and corrected.
3. August 95 Monitoring statistics for NOAA-14 added with figures 28-30.
4. February 96 Monitoring statistics for GOES-7 has been replaced by statistics for GOES-8 and GOES-9.

TABLE 1

MONITORING OF MARINE SURFACE OBSERVATIONS
MONTHLY SUSPECT LIST - SHIPS, FIXED BUOYS AND PLATFORMS
MONITORING CENTRE: BRACKNELL
MONTH: February 1996

Monitoring procedures

Period :One calendar month.

Data monitored :Reports from each unique identifier for ships, fixed buoys and platforms.

Standard of comparison :Background field from Bracknell global model.

Observation times :00, 06, 12, 18 UTC

Elements monitored :Mean sea level pressure (hPa).
:Wind speed (m s^{-1}).
:Wind direction (Degrees).

Parameters monitored

:NOBS :Number of observations received excluding duplicates.

:NGE :Number of observations with gross errors.

:PGE :Percentage of observations with gross errors.

:SD :SD of difference of observations from background values excluding those with gross errors.

:BIAS :Mean difference of observations from background values excluding those with gross errors.
N.B. a positive bias indicates the observation is veered to the background.

:RMS :Root Mean Square difference of observations from background values excluding those with gross errors.

GROSS ERROR LIMIT :15 hPa (pressure)
:25 m s^{-1} (vector wind)

SELECTION CRITERIA :NOBS ≥ 20 , and one or more of the following:

1.|bias| ≥ 4 hPa (pressure),
≥ 5 m s^{-1} (wind speed),
≥ 30 degrees (direction).

2.SD ≥ 6 hPa (pressure),
≥ 80 degrees (direction).

3.PGE ≥ 25

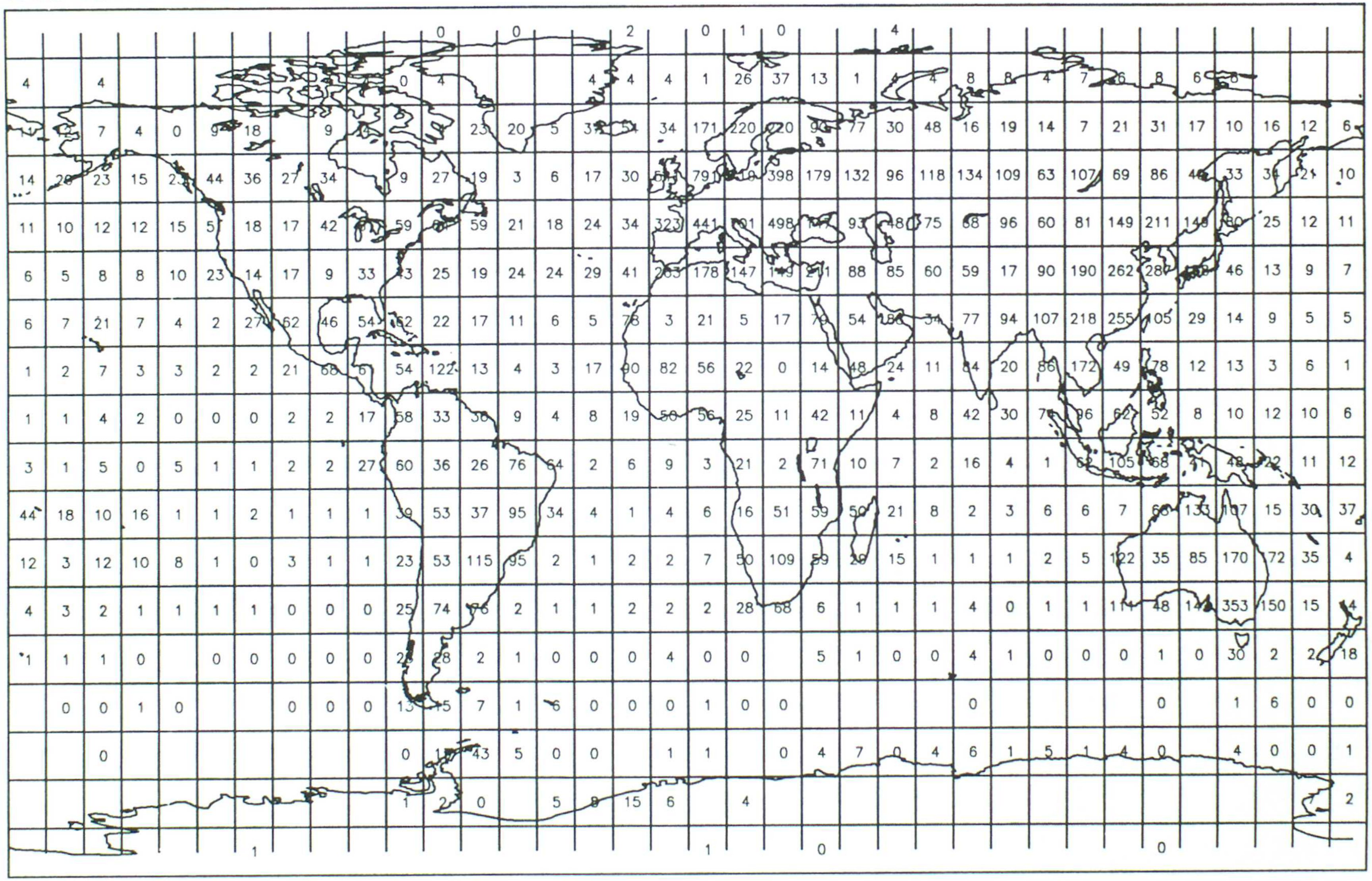
N.B. Observations of wind direction are only included in the wind direction statistics if the observed OR background wind speed > 5 m s^{-1}

IDENTIFIER	HOUR	ELEM	LEVEL	NOBS	NGE	PGE	SD	BIAS	RMS
MEAN SEA LEVEL PRESSURE									
CTFS	ALL	MSLP	SUR	21	4	19	3.6	-4.8	6.0
C6FA6	ALL	MSLP	SUR	33	0	0	1.4	-5.6	5.8
C6IL3	ALL	MSLP	SUR	21	0	0	0.9	6.9	6.9
C6JS	ALL	MSLP	SUR	74	5	7	2.0	4.1	4.6
D5NE	ALL	MSLP	SUR	26	0	0	6.3	-3.7	7.3
ELIU2	ALL	MSLP	SUR	21	0	0	1.0	5.0	5.1
ELNG6	ALL	MSLP	SUR	46	17	37	1.0	-13.4	13.5
INTERBER	ALL	MSLP	SUR	25	0	0	0.9	-5.7	5.7
LACF4	ALL	MSLP	SUR	60	0	0	1.9	-4.4	4.8
LAEB2	ALL	MSLP	SUR	29	8	28	7.3	-6.1	9.5
LAWR2	ALL	MSLP	SUR	25	0	0	1.0	4.1	4.2
LAXS2	ALL	MSLP	SUR	24	0	0	1.5	5.3	5.5
OZBL2	ALL	MSLP	SUR	60	0	0	0.9	8.6	8.6
OZ2003	ALL	MSLP	SUR	29	1	3	4.6	-5.1	6.9
PJRH	ALL	MSLP	SUR	86	0	0	1.3	4.6	4.7
PPSL	ALL	MSLP	SUR	105	0	0	2.0	4.1	4.5
P3XM4	ALL	MSLP	SUR	73	0	0	1.4	-4.9	5.1
UHVW	ALL	MSLP	SUR	21	0	0	0.9	4.4	4.5
UKGT	ALL	MSLP	SUR	39	2	5	2.7	-10.7	11.1
V2QU	ALL	MSLP	SUR	42	1	2	2.7	-5.8	6.4
WPPO	ALL	MSLP	SUR	24	0	0	1.6	4.1	4.4
YJWZ7	ALL	MSLP	SUR	40	0	0	1.2	-6.8	6.9
YLAQ	ALL	MSLP	SUR	22	0	0	2.4	4.1	4.7
ZSPP	ALL	MSLP	SUR	28	0	0	1.5	-5.1	5.3
3EAY5	ALL	MSLP	SUR	20	1	5	1.7	-4.5	4.8
3EGR6	ALL	MSLP	SUR	43	0	0	5.2	-4.5	6.9
3ESE9	ALL	MSLP	SUR	26	0	0	2.1	8.5	8.8
3FGN3	ALL	MSLP	SUR	24	6	25	3.5	-2.7	4.5
3FTJ4	ALL	MSLP	SUR	29	0	0	1.6	6.3	6.4
9MBR	ALL	MSLP	SUR	25	4	16	4.6	6.2	7.7
9MBR8	ALL	MSLP	SUR	41	5	12	7.2	4.5	8.5
WIND SPEED									
C6LC4	ALL	SPEED	SUR	23	0	0	3.4	8.6	9.2
C6YE	ALL	SPEED	SUR	24	0	0	4.1	5.7	7.0
DQQC	ALL	SPEED	SUR	43	0	0	4.0	5.6	6.9
D9SF	ALL	SPEED	SUR	21	0	0	2.9	5.0	5.8
ELAX2	ALL	SPEED	SUR	36	0	0	2.8	5.3	6.0
FNDH	ALL	SPEED	SUR	60	0	0	7.7	5.5	9.5
FNNK	ALL	SPEED	SUR	114	0	0	5.6	6.6	8.7
GHMA	ALL	SPEED	SUR	69	0	0	2.5	-6.5	7.0
LACU2	ALL	SPEED	SUR	24	0	0	2.9	6.0	6.7
LAON4	ALL	SPEED	SUR	62	0	0	4.1	6.1	7.4
LATF2	ALL	SPEED	SUR	32	0	0	5.4	8.3	9.9
LXAP	ALL	SPEED	SUR	57	3	5	4.5	8.3	9.4
VJBE	ALL	SPEED	SUR	41	0	0	4.2	5.4	6.8
VRID	ALL	SPEED	SUR	39	6	15	6.2	13.2	14.6
VRUA4	ALL	SPEED	SUR	23	0	0	6.0	5.5	8.2
3FMR5	ALL	SPEED	SUR	29	0	0	4.4	7.4	8.7
3FOO5	ALL	SPEED	SUR	34	0	0	4.4	6.3	7.7
3FSP4	ALL	SPEED	SUR	24	0	0	3.0	5.4	6.2
4PKM	ALL	SPEED	SUR	46	0	0	4.6	7.9	9.2
63119	ALL	SPEED	SUR	22	0	0	2.8	5.2	5.9
9MBR	ALL	SPEED	SUR	22	1	5	4.7	6.5	8.0
9MBW7	ALL	SPEED	SUR	33	1	3	5.6	5.2	7.7
9VBB	ALL	SPEED	SUR	21	1	5	4.1	5.5	6.9

```
IDENTIFIER     HOUR     ELEM     LEVEL     NOBS     NGE     PGE     SD          BIAS      RMS

WIND DIRECTION

CG2614         ALL      DIRN.    SUR         43       0       0   43.9          32.2     54.5
DEIW           ALL      DIRN.    SUR         20       0       0   54.2         -43.0     69.2
DLAQX4         ALL      DIRN.    SUR         31       0       0   39.0         -34.6     52.1
FNUR           ALL      DIRN.    SUR         45       0       0   90.7         -48.9    103.1
FNZD           ALL      DIRN.    SUR         27       0       0   47.0         -35.4     58.9

3EYG5          ALL      DIRN.    SUR         36       0       0   63.7          36.7     73.5
46053          ALL      DIRN.    SUR         51       0       0   41.8         -30.8     51.9
46181          ALL      DIRN.    SUR         53       0       0   50.8         -44.5     67.5
51001          ALL      DIRN.    SUR        102       0       0   28.7         -38.9     48.4
51015          ALL      DIRN.    SUR         58       0       0   31.9         -33.7     46.5

51301          ALL      DIRN.    SUR         64       0       0   33.1         -32.7     46.5
52301          ALL      DIRN.    SUR         28       0       0   51.3         -48.8     70.8
52302          ALL      DIRN.    SUR         79       0       0   37.3         -30.4     48.1
52317          ALL      DIRN.    SUR         31       0       0   81.1          -6.3     81.3
62122          ALL      DIRN.    SUR         30       0       0  109.5          32.6    114.3

9MBR           ALL      DIRN.    SUR         22       1       5   88.1          79.0    118.4
```

AVAILABILITY – SHIP/SYNOP – FEBRUARY 1996
MAIN HOURS ONLY
10 DEGREE BOX AVERAGE NUMBER OF OBSERVATIONS IN 24 HOURS
TOTAL AVERAGE NUMBER OF OBSERVATIONS IN 24 HOURS = 20236

FIGURE 1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6 7 21 7 4 2 27 62 46 54 62 22 17 11 6 5 78 3 21 5 17 79 54 186 34 77 94 107 218 255 105 29 14 9 5 5
1 2 7 3 3 2 2 21 68 61 54 122 13 4 3 17 90 82 56 22 0 14 48 24 11 84 20 86 172 49 78 12 13 3 6 1
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1 1 0 0

TABLE 2

MONITORING OF MARINE SURFACE OBSERVATIONS
MONTHLY SUSPECT LIST - DRIFTING BUOYS
MONITORING CENTRE: BRACKNELL
MONTH: February 1996

Monitoring procedures

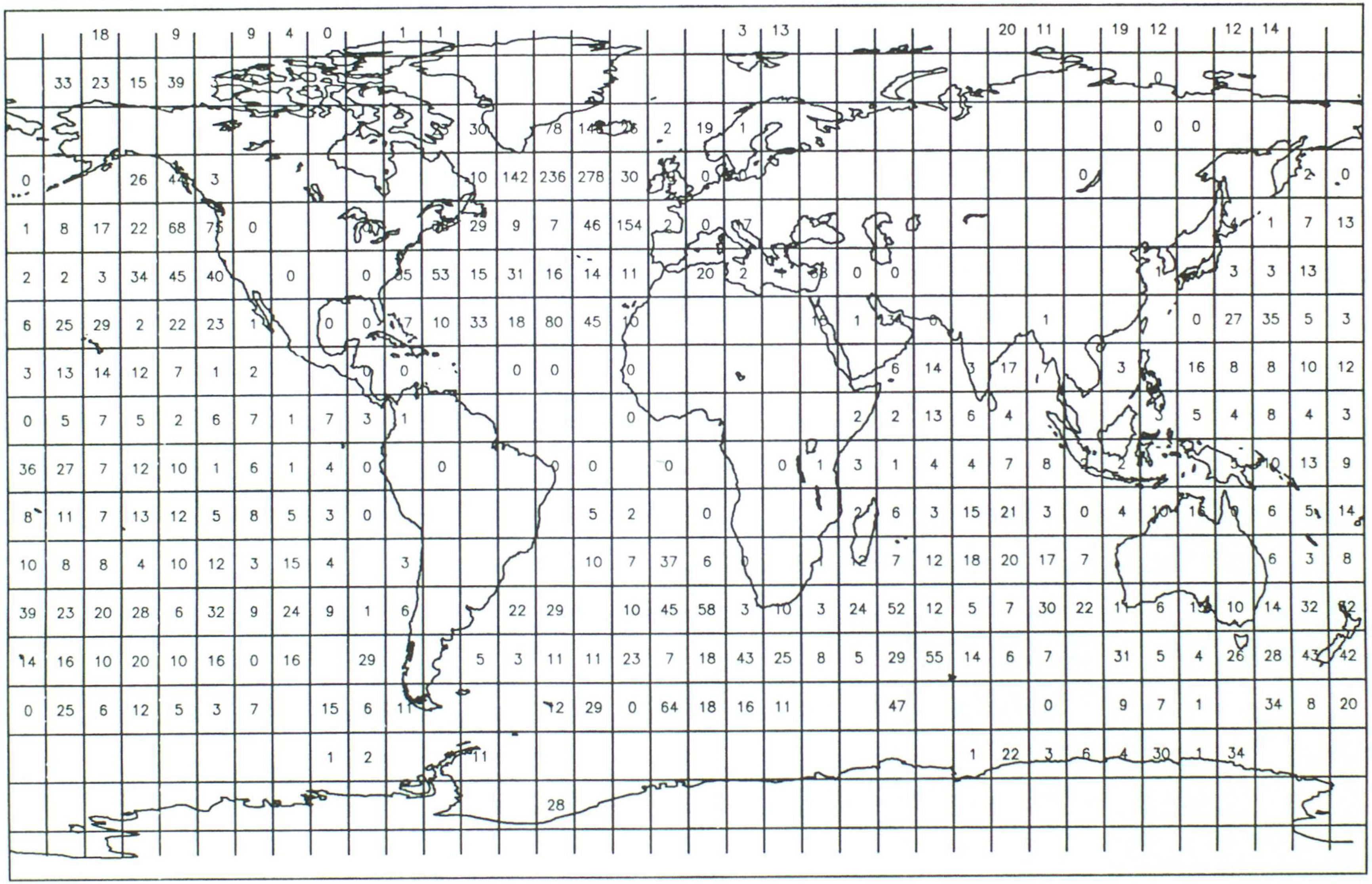
Period		:One calendar month.	
Data monitored		:Reports from each unique identifier for drifting buoys.	
Standard of comparison		:Background field from Bracknell global model.	
Position		:Average latitude and longitude for period.	
Observation times		:00, 06, 12, 18 UTC	
Elements monitored		:Mean sea level pressure (hPa). :Wind speed (m s^{-1}). :Wind direction (degrees).	
Parameters monitored			
	:NOBS	:Number of observations received excluding duplicates.	
	:NGE	:Number of observations with gross errors.	
	:PGE	:Percentage of observations with gross errors.	
	:SD	:SD of difference of observations from background values excluding those with gross errors.	
	:BIAS	:Mean difference of observations from background values excluding those with gross errors. **N.B. a positive bias indicates the observation is veered to the background.**	
	:RMS	:Root Mean Square difference of observations from background values excluding those with gross errors.	
GROSS ERROR LIMIT	:15 hPa :25 m s^{-1}	(pressure) (vector wind)	
SELECTION CRITERIA :	NOBS	≥ 20 , and one or more of the following:	
	1.|bias|	≥ 4 hPa ≥ 5 m s^{-1} ≥ 30 degrees	(pressure), (wind speed), (direction).
	2.SD	≥ 6 hPa ≥ 80 degrees	(pressure), (direction).
	3.PGE	≥ 25.	

N.B. Observations of wind direction are only included in the wind direction statistics if the observed OR background wind speed > 5 m s^{-1}

IDENTIFIER	LAT.	LONG.	HOUR	ELEM	LEVEL	NOBS	NGE	PGE	SD	BIAS	RMS
MEAN SEA LEVEL PRESSURE											
12518	36.5	42.6	ALL	MSLP	SUR	31	0	0	2.8	-4.4	5.2
15902	-36.5	1.5	ALL	MSLP	SUR	20	0	0	1.2	-7.8	7.9
17603	-27.8	-5.3	ALL	MSLP	SUR	406	88	22	7.8	-4.3	8.9
17607	-44.9	62.2	ALL	MSLP	SUR	93	93	100	0.0	0.0	0.0
17608	-42.8	20.8	ALL	MSLP	SUR	79	18	23	4.6	6.5	8.0
17901	-49.0	31.3	ALL	MSLP	SUR	195	195	100	0.0	0.0	0.0
17902	-52.7	25.8	ALL	MSLP	SUR	278	56	20	4.2	5.6	7.0
33900	-52.7	-23.0	ALL	MSLP	SUR	259	4	2	2.9	-6.5	7.2
44777	27.0	-30.5	ALL	MSLP	SUR	472	45	10	4.5	-7.3	8.6
56915	-36.7	93.3	ALL	MSLP	SUR	235	10	4	7.2	-2.3	7.6
62507	47.5	-17.9	ALL	MSLP	SUR	220	88	40	6.2	1.3	6.3
WIND SPEED											
44616	59.9	-26.9	ALL	SPEED	SUR	35	0	0	6.3	-14.2	15.5
62505	46.8	-19.1	ALL	SPEED	SUR	140	0	0	3.9	9.5	10.3
62506	49.5	-19.9	ALL	SPEED	SUR	144	0	0	2.7	-6.7	7.3
91722	18.1	145.8	ALL	SPEED	SUR	31	0	0	2.2	-5.8	6.2
91855	5.3	163.0	ALL	SPEED	SUR	54	0	0	0.9	-6.2	6.2
91911	8.3	137.5	ALL	SPEED	SUR	44	0	0	1.4	-5.9	6.0
WIND DIRECTION											
46557	38.6	-147.9	ALL	DIRN.	SUR	173	0	0	27.9	-33.6	43.7
91838	5.3	153.7	ALL	DIRN.	SUR	26	0	0	31.9	-59.1	67.2
91852	6.2	160.7	ALL	DIRN.	SUR	42	0	0	8.1	-123.5	123.8
91877	6.1	172.1	ALL	DIRN.	SUR	26	0	0	22.2	-41.7	47.2

AVAILABILITY – DRIBU – FEBRUARY 1996
MAIN HOURS ONLY
10 DEGREE BOX AVERAGE NUMBER OF OBSERVATIONS IN 24 HOURS
TOTAL AVERAGE NUMBER OF OBSERVATIONS IN 24 HOURS = 5321

FIGURE 2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6 25 29 2 22 23 1 0 0 17 10 33 18 80 45 10 1 13 0 1 0 27 35 5 3
3 13 14 12 7 1 2 0 0 0 0 0 6 14 3 17 7 3 16 8 8 10 12
0 5 7 5 2 6 7 1 7 3 1 0 2 2 13 6 4 3 5 4 8 4 3
36 27 7 12 10 1 6 1 4 0 0 0 0 0 0 1 3 1 4 4 7 8 2 10 13 9
8 11 7 13 12 5 8 5 3 0 5 2 0 2 6 3 15 21 3 0 4 10 16 6 5 14
10 8 8 4 10 12 3 15 4 3 10 7 37 6 7 12 18 20 17 7 6 3 8
39 23 20 28 6 32 9 24 9 1 6 22 29 10 45 58 3 10 3 24 52 12 5 7 30 22 11 6 13 10 14 32 52
14 16 10 20 10 16 0 16 29 5 3 11 11 23 7 18 43 25 8 5 29 55 14 6 7 31 5 4 26 28 43 42
0 25 6 12 5 3 7 15 6 11 12 29 0 64 18 16 11 47 0 9 7 1 34 8 20
1 2 11 1 22 3 6 4 30 1 34
28

TABLE 3

MONITORING OF LAND SURFACE OBSERVATIONS
MONTHLY SUSPECT LIST - SYNOPS & AUTOSYNOPS
MONITORING CENTRE: BRACKNELL
MONTH: February 1996

Monitoring procedures

Period		:One calendar month.
Data monitored		:Reports from each unique identifier for synops & autosynops.
Standard of comparison		:Background field from Bracknell global model.
Observation times		:00, 06, 12, 18 UTC
Elements monitored		:Mean sea level pressure (hPa).
Parameters monitored	:HT(m)	:Station height (in metres) as given in WMO No. 9 Vol A
	:RP	:Pressure reporting practice M=mean sea level pressure (hPa) reported. S=Station level pressure reported. 8=Geopotential height (m) of 850 hPa surface reported. 7=Geopotential height (m) of 700 hPa surface reported.
	:NOBS	:Number of observations received excluding duplicates.
	:NGE	:Number of observations with gross errors.
	:PGE	:Percentage of observations with gross errors.
	:%REJ	:Percentage of observations flagged.
	:SD	:SD of difference of observations from background values excluding those with gross errors.
	:BIAS	:Mean difference of observations from background values excluding those with gross errors.
	:RMS	:Root Mean Square difference of observations from background values excluding those with gross errors.
GROSS ERROR LIMIT	:15 hPa	(pressure)
SELECTION CRITERIA	:NOBS	≥ 20 ,and one or more of the following:
	1.¦bias¦	≥ 4 hPa
	2. SD	≥ 6 hPa
	3.PGE	≥ 25.

N.B. For stn ht ≥ 500m, mslp is that calculated from station level pressure where available.
For stn ht < 500m, mslp is that as reported by the station where available.

WMO REGION 1:

STATION	LAT	LONG	HT(M)	RP	NOBS	NGE	PGE	%REJ	SD	BIAS	RMS
60106	35.1N	5.3E	305	M	79	5	6	56	5.5	4.7	7.2
60445	36.2N	5.4E	1081	S8	98	2	2	93	0.9	4.8	4.9
60468	35.6N	6.2E	1052	S8	39	39	100	0	0.0	0.0	0.0
60511	35.3N	1.4E	1127	S8	83	83	100	0	0.0	0.0	0.0
60535	34.7N	3.3E	1144	S8	45	1	2	93	1.0	-6.4	6.5
60571	31.6N	2.2W	773	S8	91	0	0	18	1.2	-4.4	4.6
60670	24.6N	9.5E	1054	S8	83	3	4	95	1.3	8.7	8.8
63333	11.1N	39.7E	1916	MS	67	0	0	70	0.8	7.4	7.4
63453	8.8N	39.8E	1062	S	49	2	4	96	1.4	12.3	12.4
63478	5.1N	44.6E	320	MS	41	0	0	2	1.6	7.4	7.6
67877	18.2S	31.5E	1632	M	66	15	23	38	1.5	12.5	12.6
68014	19.6S	18.1E	1411	S8	82	1	1	61	2.1	-5.2	5.6
68396	26.5S	31.3E	641	S8	47	0	0	66	1.1	4.8	4.9
68442	29.1S	26.3E	1354	S8	111	0	0	93	1.1	-5.0	5.1
68752	32.8S	27.4E	524	S8	24	0	0	100	0.9	-7.0	7.1

WMO REGION 2:

STATION	LAT	LONG	HT(M)	RP	NOBS	NGE	PGE	%REJ	SD	BIAS	RMS
24382	66.4N	143.2E	196	MS	55	0	0	25	3.5	5.4	6.4
24671	63.9N	135.9E	402	MS	54	10	19	0	3.1	10.7	11.1
24688	63.3N	143.2E	741	MS	55	3	5	7	1.7	4.1	4.4
29956	52.8N	89.9E	455	MS	110	0	0	20	3.5	5.2	6.3
30549	54.2N	112.0E	1302	S	52	2	4	15	2.1	-4.1	4.6
30554	54.5N	113.6E	995	MS	55	1	2	98	1.0	9.5	9.6
30627	53.1N	105.5E	762	MS	54	1	2	50	1.5	-4.7	4.9
30664	53.6N	115.6E	812	MS	26	2	8	4	1.1	-4.0	4.1
30764	52.6N	115.2E	646	MS	49	1	2	2	1.1	-4.5	4.6
31474	51.6N	133.3E	384	MS	101	1	1	41	3.2	4.3	5.4
38599	40.2N	69.7E	427	MS	29	0	0	0	2.7	4.5	5.2
40701	39.3N	44.4E	1470	MS	63	1	2	95	1.6	8.4	8.6
40710	37.9N	47.5E	-9999	M	59	5	8	29	4.1	5.4	6.8
40743	36.2N	57.7E	941	MS	109	0	0	21	1.6	-4.5	4.8
40762	35.3N	59.2E	1333	MS	107	41	38	0	1.1	-13.3	13.3
40763	35.2N	58.5E	1060	MS	34	0	0	26	1.6	-5.4	5.6
40783	32.4N	49.7E	1972	MS	60	2	3	92	1.7	-6.8	7.0
40789	33.8N	55.1E	921	MS	48	2	4	92	1.7	9.1	9.3
40836	30.8N	51.7E	1880	MS	53	1	2	98	1.5	9.8	9.9
40859	29.0N	53.7E	1383	MS	55	1	2	100	1.4	10.1	10.2
41244	24.2N	55.8E	299	M	96	0	0	0	1.4	7.5	7.6
41254	23.1N	57.7E	1755	S8	83	83	100	0	0.0	0.0	0.0
44212	49.8N	92.1E	936	MS	94	2	2	57	4.1	8.0	9.0
44232	49.4N	102.7E	933	MS	82	1	1	27	2.2	-4.0	4.6
44277	46.4N	96.3E	2147	MS	90	0	0	71	1.2	-6.8	6.9
44416	28.6N	81.6E	720	MS	76	2	3	20	2.0	4.1	4.6
44477	27.0N	87.4E	1445	S8	65	65	100	0	0.0	0.0	0.0
47022	40.8N	128.2E	1206	S	105	3	3	50	1.9	5.0	5.3
51243	45.6N	84.9E	428	MS	116	0	0	19	2.5	4.6	5.2
51334	44.6N	82.9E	321	M	115	15	13	0	3.3	9.8	10.3
51379	44.0N	89.6E	794	M	115	0	0	55	2.6	7.1	7.6
51818	37.6N	78.3E	1376	M	116	0	0	0	3.0	5.9	6.6
52378	41.4N	102.4E	960	M	114	0	0	24	2.3	4.6	5.1
52602	38.8N	93.4E	2734	S	115	1	1	14	2.4	-6.3	6.7
53083	44.6N	114.2E	1183	M	114	1	1	51	2.8	4.9	5.6
53352	41.7N	110.4E	1377	M	115	0	0	32	2.8	5.8	6.4
53480	41.0N	113.1E	1416	M	112	0	0	18	3.0	4.1	5.1
53487	40.1N	113.3E	1069	M	115	0	0	6	2.9	4.1	5.0
53502	39.8N	105.8E	1033	M	114	0	0	4	2.7	4.8	5.5
53705	37.5N	105.7E	1185	M	115	0	0	16	2.4	4.8	5.4
54386	41.4N	128.2E	1018	M	114	1	1	9	3.1	5.1	6.0

WMO REGION 2:

STATION	LAT	LONG	HT(M)	RP	NOBS	NGE	PGE	%REJ	SD	BIAS	RMS
56144	31.7N	98.6E	3204	S	101	1	1	26	2.2	-4.7	5.2
56287	30.0N	103.0E	629	M	115	0	0	2	2.6	5.7	6.3
56385	29.5N	103.3E	3049	S	114	1	1	31	1.9	-4.3	4.7
56444	28.5N	98.9E	3488	S	111	111	100	0	0.0	0.0	0.0
56462	29.0N	101.5E	2994	S	94	0	0	94	3.0	7.3	7.9
57006	34.6N	105.8E	1143	M	114	0	0	4	2.5	4.7	5.3
58445	30.3N	119.4E	1494	S	96	0	0	43	1.8	-4.3	4.7
59007	24.1N	105.1E	1251	M	114	1	1	31	3.7	4.3	5.7

WMO REGION 3:

STATION	LAT	LONG	HT(M)	RP	NOBS	NGE	PGE	%REJ	SD	BIAS	RMS
80099	7.1N	70.7W	128	M	36	0	0	3	1.4	-6.2	6.4
80431	9.9N	67.3W	429	MS	65	1	2	29	1.3	-4.3	4.5
82704	7.6S	72.7W	170	MS	70	0	0	0	2.6	-4.5	5.2
82825	8.8S	63.9W	95	MS	46	0	0	0	2.4	-4.2	4.8
83214	10.3S	54.9W	285	MS	35	0	0	0	1.3	-5.9	6.0
83235	12.4S	46.4W	660	MS	64	0	0	88	1.3	7.2	7.3
83319	14.7S	52.4W	315	MS	45	0	0	0	1.4	-4.3	4.5
83332	14.1S	46.4W	950	MS	59	32	54	0	1.1	13.2	13.2
83408	14.3S	43.8W	556	MS	54	0	0	100	1.0	11.6	11.6
83423	16.7S	49.3W	729	MS	67	0	0	79	1.3	-4.8	5.0
83488	17.8S	42.9W	1097	MS	36	36	100	0	0.0	0.0	0.0
83531	18.6S	46.5W	896	MS	34	1	3	59	1.2	-6.5	6.6
83587	19.9S	43.9W	850	MS	36	0	0	75	1.3	-7.4	7.5
83704	22.3S	53.9W	369	MS	52	0	0	0	4.8	-5.1	7.0
83836	25.5S	50.6W	837	MS	73	0	0	41	1.8	-4.5	4.8
83916	28.2S	51.5W	806	MS	64	0	0	41	2.1	-4.8	5.2
84455	6.5S	76.4W	282	MS	106	0	0	25	2.2	7.4	7.7
84472	7.1S	78.5W	2622	S	43	2	5	84	1.9	-5.6	5.9
84542	9.4S	77.6W	2760	S	44	0	0	16	2.6	6.1	6.6
84686	13.6S	72.0W	3249	S	108	0	0	1	1.7	-5.2	5.5
84782	18.1S	70.3W	469	MS	110	0	0	1	1.8	5.5	5.8
85041	11.0S	68.8W	252	MS	37	0	0	0	2.5	4.0	4.7
85312	19.8S	63.9W	992	S	31	0	0	84	1.6	-5.8	6.0

WMO REGION 4:

STATION	LAT	LONG	HT(M)	RP	NOBS	NGE	PGE	%REJ	SD	BIAS	RMS
71421	51.9N	63.3W	561	MS	114	0	0	18	1.4	-4.1	4.3
71882	51.0N	118.2W	443	MS	114	2	2	30	5.5	5.3	7.6
71917	80.0N	85.9W	10	MS	114	4	4	28	3.0	8.8	9.3
76118	30.4N	109.7W	1040	MS	40	0	0	98	2.3	-10.6	10.8
76539	22.1N	101.0W	1871	MS	83	0	0	64	1.2	-4.4	4.6
76632	20.1N	98.7W	2417	MS	41	0	0	71	1.3	-5.8	5.9
76634	20.1N	98.4W	2135	MS	86	2	2	69	1.4	-5.5	5.7
76658	19.2N	103.7W	494	MS	32	0	0	0	1.3	6.1	6.2
76726	18.9N	99.3W	1560	MS	77	2	3	99	1.5	-7.7	7.8
76762	17.5N	99.5W	1360	MS	76	1	1	99	1.3	10.5	10.6
76848	16.3N	92.1W	1530	MS	88	5	6	0	0.9	-13.3	13.3

WMO REGION 5:

STATION	LAT	LONG	HT(M)	RP	NOBS	NGE	PGE	%REJ	SD	BIAS	RMS
91339	5.5N	153.8E	3	MS	39	0	0	33	1.3	-4.2	4.4

WMO REGION 6:

STATION	LAT	LONG	HT(M)	RP	NOBS	NGE	PGE	%REJ	SD	BIAS	RMS
01245	62.6N	9.7E	630	MS	85	0	0	100	1.1	-6.2	6.3
03305	53.1N	3.9W	215	M	114	33	29	53	6.0	2.4	6.5
08221	40.5N	3.6W	633	MS	112	0	0	96	1.1	6.3	6.4
11024	48.4N	15.4E	860	S8	115	66	57	0	0.5	-14.2	14.2
11180	47.7N	15.8E	1546	S8	114	0	0	59	1.9	-4.8	5.2
11360	47.5N	14.1E	710	MS	56	0	0	70	1.7	4.5	4.8
11735	50.1N	17.2E	1512	S8	115	0	0	63	1.8	-4.4	4.8
15280	45.4N	25.4E	2509	S7	101	1	1	48	1.9	-4.1	4.5
16020	46.5N	11.3E	1461	MS	56	56	100	0	0.0	0.0	0.0
16134	44.2N	10.7E	2173	S8	112	6	5	16	1.8	-4.3	4.7
16227	41.9N	13.6E	655	MS	114	67	59	80	6.3	-6.9	9.3
16614	40.4N	21.3E	604	MS	106	0	0	99	1.4	-6.8	6.9

ANTARCTIC:

STATION	LAT	LONG	HT(M)	RP	NOBS	NGE	PGE	%REJ	SD	BIAS	RMS
89208	90.0S	0.0W	2835	S7	91	91	100	0	0.0	0.0	0.0
89262	67.0S	60.6W	17	MS	89	0	0	0	2.4	-4.1	4.8
89264	71.4S	68.9W	780	S8	37	0	0	14	2.6	4.7	5.4
89266	72.2S	60.3W	91	MS	80	76	95	0	0.6	-14.3	14.3
89705	81.5S	3.7E	2410	S7	44	44	100	0	0.0	0.0	0.0
89757	73.8S	55.7E	2775	S	92	92	100	0	0.0	0.0	0.0
89811	66.7S	112.9E	1362	S	29	28	97	0	0.0	-4.0	4.0
89834	67.4S	138.7E	1560	S	57	57	100	0	0.0	0.0	0.0
89847	67.6S	146.0E	30	MS	87	0	0	10	2.5	-7.6	8.0
89860	74.2S	160.3E	1772	S8	80	0	0	61	1.7	-8.0	8.2
89865	76.2S	168.7E	275	MS	89	50	56	0	7.8	2.6	8.2
89868	79.9S	169.8E	60	MS	92	92	100	0	0.0	0.0	0.0

TABLE 4

MONTHLY MONITORING OF AIRCRAFT OBSERVATIONS
MONITORING CENTRE: BRACKNELL
MONTH: February 1996

Monitoring procedures

Period :One calendar month.

Data monitored :Statistics for each airline carrier.

Area monitored :90°N - 90°S, 180°W - 180°E.

Standard of comparison :Background field from Bracknell global model.

Observation times :All hours combined.

Level(s) monitored :70.0 - 500.0 hPa

Elements monitored :TEMP in °C ; WIND in m s^{-1}

Parameters monitored

:N REP. :Number of observations received excluding duplicates.

:PG :Percentage of observations with gross errors.

:PR :Percentage of observations rejected by quality control including rejections from the duplicate check.

:PC :Percentage of observations with calm winds.

:RMS :Root Mean Square difference of observations from background values excluding those with gross errors in Temperature & vector wind.

:BIAS :Mean difference of observations from background values excluding those with gross errors in Temperature & Wind Speed.

GROSS ERROR LIMITS :10.0 °C ; 60 m s^{-1} Vector Wind

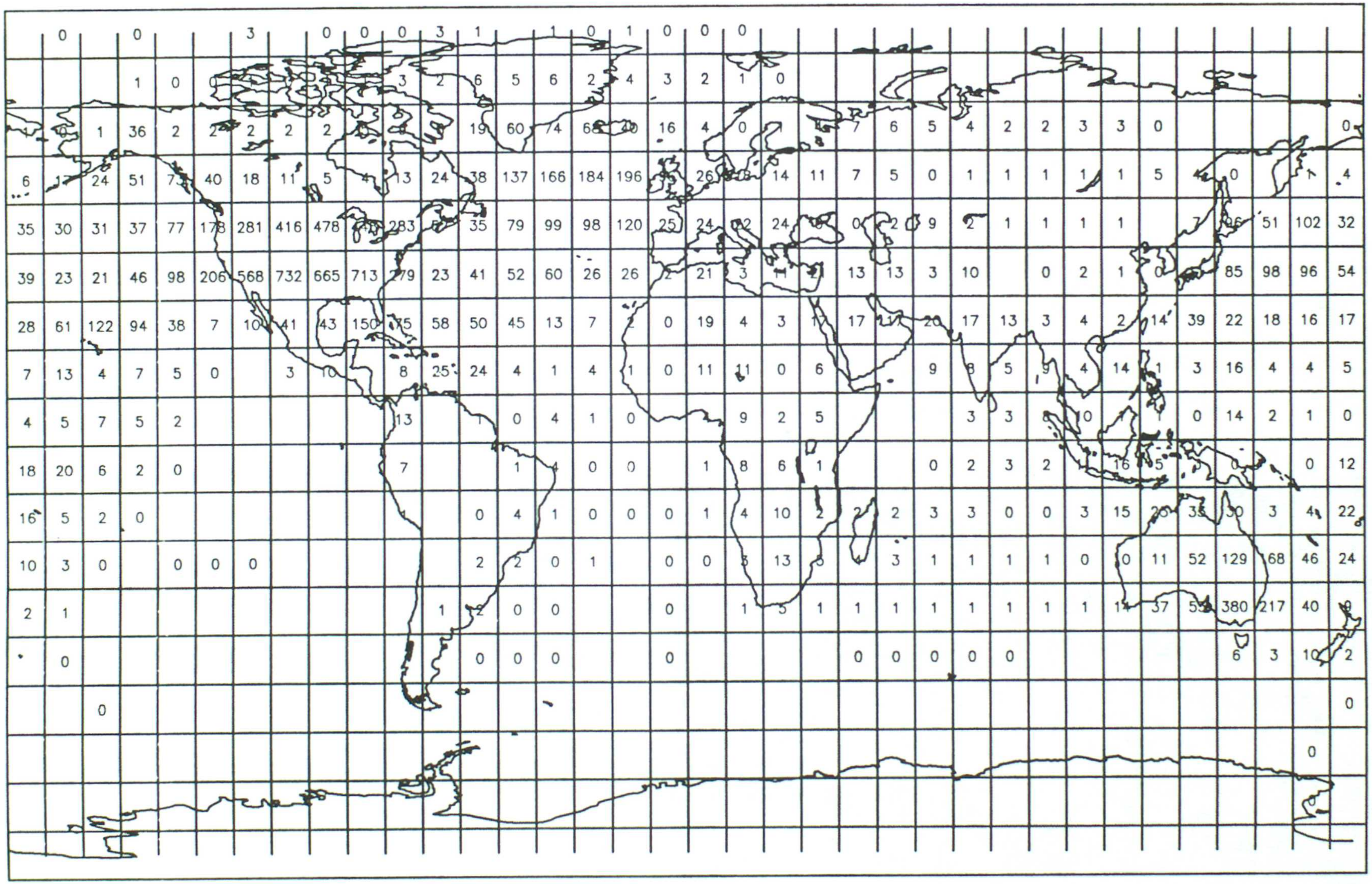
SELECTION CRITERIA :N REP $\geq$ 20

	TEMPERATURE					WIND					
IDENT.	N.REP.	PG	PR	RMS	BIAS	N.REP.	PG	PR	PC	RMS	BIAS
AAA	155	2	3	1.7	0.9	154	1	3	1	8.1	0.9
AAL	5009	0	1	1.9	0.1	5022	0	1	0	9.1	1.2
AAN	166	1	5	2.0	-0.7	157	0	4	0	8.5	0.4
AAR	2014	1	2	2.0	0.0	2027	0	2	0	9.0	1.4
ACA	1305	0	1	2.0	-0.1	1333	0	1	0	8.2	1.0
ACI	21	0	0	1.7	0.5	21	0	0	0	9.4	3.9
AEA	504	3	100	3.3	0.3	496	0	5	0	9.6	1.1
AEL	1062	1	3	2.0	-0.2	1063	0	3	0	8.7	0.5
AFL	187	1	100	3.2	1.7	183	1	9	1	11.1	0.5
AFR	1319	0	4	2.0	-0.3	1336	0	5	0	8.8	1.2
AIC	30	0	3	2.3	-0.2	30	0	0	0	12.2	1.1
AIH	160	0	4	1.7	0.1	161	0	3	0	9.7	0.3
AMT	311	0	1	2.2	0.3	317	0	3	0	11.0	2.3
AMX	194	1	3	1.8	-0.6	196	0	2	0	8.3	1.5
AMY	156	1	4	1.8	-0.4	157	0	6	0	11.4	0.4
ANA	922	1	1	2.1	-0.3	923	0	1	0	8.4	1.1
ANZ	2422	1	3	2.0	0.0	2398	0	4	1	8.2	1.5
AOM	620	0	1	1.8	0.8	623	0	1	0	8.2	1.0
ATN	47	0	9	3.3	1.2	47	0	100	0	17.8	3.6
AUA	116	3	7	1.7	-0.2	115	0	9	0	7.5	0.8
AVA	326	1	4	2.4	-0.2	328	0	3	0	9.6	1.6
AVN	35	3	3	1.3	0.7	34	0	0	0	6.4	0.0
AZA	447	0	4	2.1	0.1	456	0	4	0	8.9	1.3
BAL	333	1	13	2.1	-0.2	344	0	14	0	8.3	1.3
BAW	1422	1	4	1.9	-0.2	1436	0	3	0	8.2	1.3
BBB	39	0	8	2.2	-0.4	38	0	3	0	8.1	0.2
BBC	24	0	25	1.1	0.0	23	0	26	0	10.1	0.4
BWA	386	1	2	2.4	1.5	392	0	2	0	8.6	1.5
CAL	1775	1	2	2.3	-0.1	1774	0	2	0	9.2	1.2
CCA	171	0	54	3.1	0.2	171	1	91	0	11.9	0.4
CDN	2483	0	1	2.1	0.3	2490	0	2	0	9.3	1.2
CES	119	0	0	2.5	0.5	120	1	50	0	12.0	0.2
CFG	1156	1	2	2.1	-0.8	1163	0	1	0	8.4	1.0
CKS	101	0	30	2.5	1.8	103	0	30	0	10.2	0.9
CKT	71	0	6	1.6	0.6	75	0	8	0	9.6	-0.1
CLX	133	0	1	1.7	-0.6	135	0	2	0	10.2	-1.0
CMI	986	1	2	2.1	0.2	996	0	3	0	8.6	1.1
CMM	348	0	2	2.3	-0.4	351	1	2	0	10.5	1.1
COA	832	1	1	1.9	0.5	833	0	2	0	9.5	1.2
CPA	67	1	1	1.7	-0.1	70	0	0	0	6.9	0.9
CRL	608	1	2	2.0	0.3	610	0	3	0	9.7	1.7
CTM	135	0	15	2.6	-1.2	137	0	15	0	9.4	2.4
CUB	414	1	100	2.7	1.3	414	0	100	0	11.9	1.0
DAF	23	0	0	3.3	-2.2	23	0	0	0	8.1	0.1
DAL	4612	1	3	2.3	0.8	4293	0	2	0	9.2	1.0
DHL	488	1	100	3.3	-0.7	487	0	3	0	9.3	0.6
DLH	2448	0	7	2.2	0.6	2471	0	8	2	8.1	1.2
DOA	194	0	14	1.9	0.6	194	1	16	0	9.7	1.4
EIA	96	2	9	2.7	0.2	96	0	11	1	9.3	0.3
ELY	117	0	7	1.5	-0.1	119	0	9	0	9.8	0.4
EVA	1796	0	2	2.3	-0.5	1803	0	3	0	9.7	1.0
EWW	122	7	100	2.8	1.2	124	2	100	2	15.9	2.1
FDX	1223	0	2	2.1	1.0	1231	0	3	0	8.9	1.1
FIN	405	0	2	2.1	0.5	403	0	3	0	9.1	1.3
FJI	500	2	3	1.6	0.6	496	0	2	0	7.4	1.6
FOM	30	7	10	2.1	1.2	30	0	3	0	6.4	1.1
GAF	57	0	2	1.7	0.5	56	0	5	2	7.6	-0.6
GHA	24	0	0	1.8	1.1	24	0	8	0	13.7	2.2
GIA	166	1	3	1.9	0.3	166	0	3	1	7.6	1.3

		TEMPERATURE				WIND					
IDENT.	N.REP.	PG	PR	RMS	BIAS	N.REP.	PG	PR	PC	RMS	BIAS
GTI	82	1	0	2.1	-0.1	80	0	4	0	11.0	0.1
HAL	1419	0	2	2.2	0.7	1421	0	3	0	11.6	1.7
HLF	127	0	2	1.6	-0.4	119	0	3	0	8.4	0.8
HRH	32	0	6	1.1	0.5	32	0	6	0	6.3	0.7
IBE	1779	1	15	2.2	0.0	1775	0	15	0	9.0	0.7
ICE	374	0	1	1.7	-0.1	372	1	1	0	8.5	1.1
JAA	22	0	0	2.5	1.0	22	0	0	0	9.8	5.1
JAL	6564	0	1	2.3	0.3	6569	0	1	0	8.8	1.4
JAZ	54	0	2	2.6	1.9	53	0	0	0	7.5	3.2
JQA	23	0	9	1.1	0.3	22	0	14	0	9.5	0.6
KAL	3607	0	1	2.4	0.1	3615	0	2	0	9.1	1.1
KIC	62	0	3	2.2	0.2	63	0	2	0	9.9	2.1
KLM	1988	0	2	1.8	0.1	2003	0	2	0	8.0	1.2
LAN	24	0	4	3.3	0.3	24	0	4	0	10.3	3.9
LDA	204	0	8	2.2	-1.3	213	0	9	0	8.6	0.8
LDI	295	1	3	2.3	-1.4	291	0	5	0	8.8	1.2
LIB	627	1	3	1.9	0.4	628	0	3	0	9.1	1.1
LOT	158	0	2	2.0	-0.7	158	0	3	0	8.5	0.6
LTU	696	1	3	1.7	0.3	676	0	3	0	8.2	1.4
MAS	327	1	2	2.1	-0.3	324	0	3	1	10.0	0.8
MDA	165	0	1	2.4	-0.4	165	0	1	0	8.6	0.1
MOU	30	0	3	2.8	2.0	30	0	7	0	15.7	1.2
MPH	755	1	2	1.9	-0.7	751	0	1	0	8.4	0.8
MRS	56	4	7	2.8	-0.7	56	0	13	4	15.1	4.4
NCA	658	0	1	2.1	0.7	659	0	2	1	9.0	0.6
NWA	9896	1	2	2.4	0.8	9931	0	2	0	8.9	1.4
OAL	37	0	0	2.4	2.0	37	0	0	0	6.1	0.2
PAC	50	2	8	2.3	0.3	51	0	8	2	8.6	2.1
PAL	1022	1	2	2.1	-0.3	1022	0	3	0	10.0	1.1
PAO	215	1	5	1.6	0.3	213	0	6	1	7.6	1.0
PNL	28	4	4	3.2	1.5	27	0	0	0	9.8	2.1
QFA	1155	1	3	1.7	0.4	1146	0	3	1	7.7	1.6
RAF	160	0	1	1.7	0.6	160	0	4	3	9.0	2.1
RIA	131	1	5	3.1	2.1	131	0	99	0	14.2	2.5
RJA	48	2	6	1.7	0.7	48	0	6	0	9.1	2.2
RKA	77	0	3	2.2	-0.2	78	0	3	0	7.6	1.5
RON	27	0	0	1.2	0.9	27	0	0	0	7.9	2.5
RRR	126	2	23	2.5	0.1	127	0	21	0	8.3	1.9
SAA	176	2	3	2.5	-1.1	177	1	4	1	9.7	1.1
SAB	48	0	4	2.3	0.1	48	0	2	0	6.6	1.5
SAS	988	1	1	1.8	-0.2	976	0	1	0	8.9	1.1
SIA	1253	0	2	2.2	-0.6	1251	0	3	0	10.0	0.9
SLR	41	0	12	1.7	-1.1	41	0	10	0	8.2	0.8
SOL	51	2	0	1.1	0.6	48	0	2	2	7.1	1.5
SPP	114	1	20	2.3	-1.0	110	1	15	0	8.2	0.1
SVA	123	2	1	1.7	0.9	130	0	1	1	7.0	0.6
SVV	30	0	0	3.8	2.5	30	0	17	0	13.1	-2.6
SWR	146	3	5	2.0	0.5	149	0	4	1	8.4	0.7
TAP	432	1	3	2.1	-0.4	431	0	4	0	9.3	1.2
TEJ	75	4	21	2.4	0.4	74	0	23	0	9.1	-1.0
THA	263	0	1	2.4	-0.6	267	0	2	0	9.5	0.6
TOW	88	0	3	2.1	-0.6	87	0	1	0	8.9	0.8
TPA	23	0	4	1.6	0.3	22	0	9	0	11.3	0.1
TWA	1231	1	3	2.0	0.0	1221	0	2	0	9.0	1.4
UAL	49305	0	3	1.9	0.2	49323	0	3	0	7.9	1.1
ULE	199	1	4	1.5	0.3	197	0	3	0	8.6	0.7
UPS	894	1	12	1.7	0.2	900	0	11	0	8.8	1.6
USA	110	1	1	1.6	-0.6	111	0	1	0	8.4	1.4
VIA	537	0	2	2.0	0.9	537	0	4	0	9.4	1.1

	TEMPERATURE					WIND					
IDENT.	N.REP.	PG	PR	RMS	BIAS	N.REP.	PG	PR	PC	RMS	BIAS
VIR	160	0	3	1.9	0.2	169	0	5	0	10.9	2.7
VRB	26	0	4	2.9	0.7	26	0	8	0	10.0	2.0
VRG	68	3	3	2.1	0.9	68	0	1	0	9.0	0.6
VSP	181	2	4	2.3	0.5	181	0	4	0	11.5	0.5
WOA	130	0	5	2.3	0.8	128	0	5	0	8.6	2.7
AN	24297	0	1	1.3	0.2	24108	0	1	0	6.9	1.3
BA	20062	0	10	1.7	0.5	20015	0	35	0	7.2	1.4
DL	69927	0	3	1.9	0.1	69927	0	10	0	7.2	1.2
FJ	41	0	5	1.2	0.7	41	0	7	2	7.5	1.1
KL	9921	0	10	1.6	0.4	9916	0	10	0	7.7	1.7
LH	2802	0	4	1.7	0.2	2780	0	4	0	6.6	1.2
MF	57	0	2	2.2	-1.2	63	0	8	0	14.5	1.2
NW	22722	0	2	1.9	0.3	22722	0	2	0	7.0	1.0
PN	21	0	0	3.3	1.8	20	0	5	0	17.5	0.5
QF	8118	0	1	1.3	0.4	8106	0	1	0	7.0	1.1
SA	2339	0	0	1.9	1.4	2335	0	86	0	8.4	2.0
SV	1757	0	5	2.2	1.2	1752	0	60	0	7.7	2.1
M	349	2	95	3.4	1.5	360	0	95	0	11.2	0.9
N	385	3	8	2.8	0.3	417	0	6	0	10.7	2.2

MEAN DAILY COUNT OF AIRCRAFT 70 – 500 HPA FIGURE 3
FEBRUARY 1996
OBSERVATIONS WITH O–B VECTOR DIFFERENCE GREATER THAN 60 MPS EXCLUDED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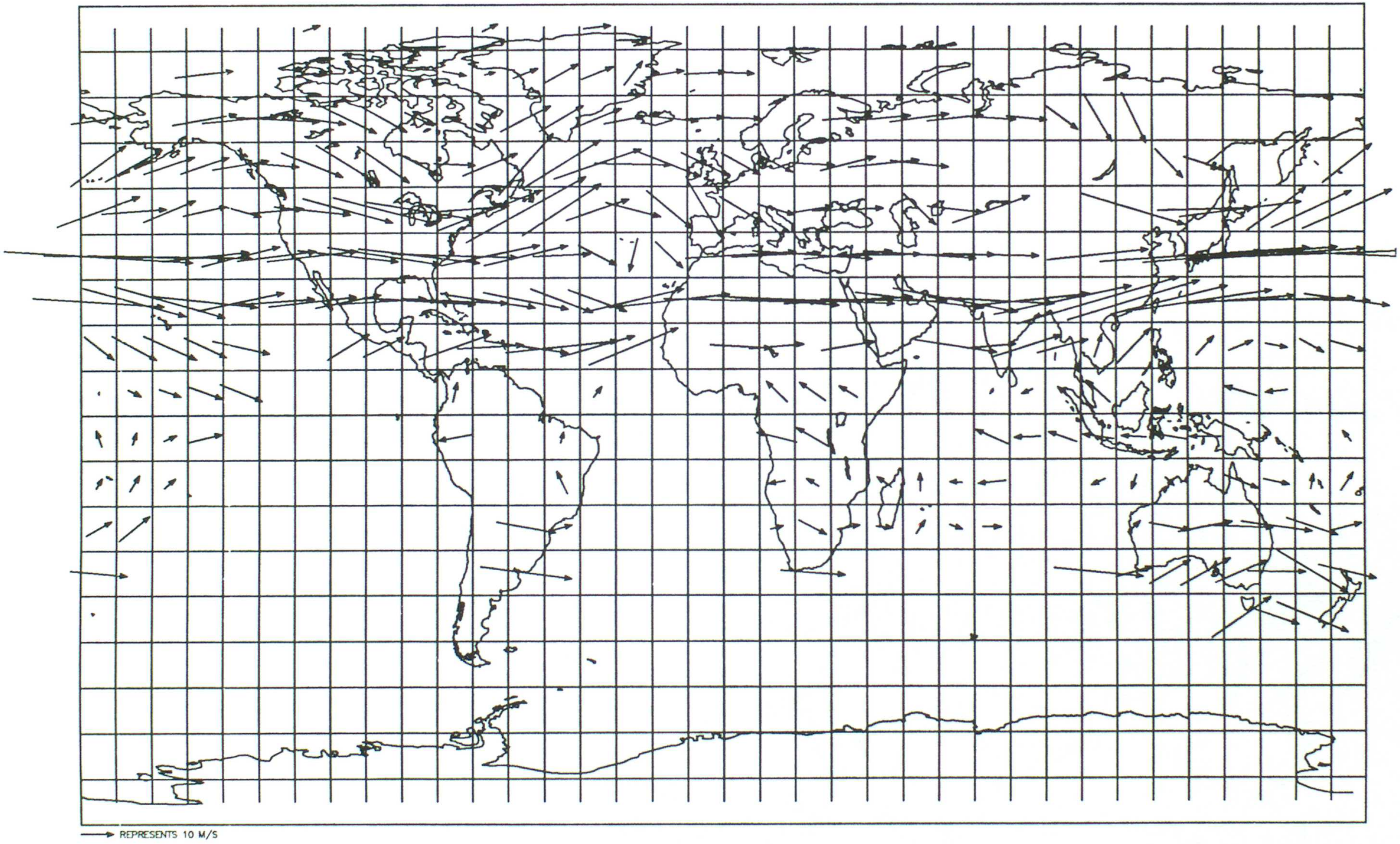
1 0 3 2 6 5 6 2 4 3 2 1 0
10 1 36 2 2 2 2 2 19 60 74 68 40 16 4 0 7 6 5 4 2 2 3 3 0 0
6 17 24 51 74 40 18 11 5 4 13 24 38 137 166 184 196 26 14 11 7 5 0 1 1 1 1 1 5 4 0 4
35 30 31 37 77 178 281 416 478 283 35 79 99 98 120 25 24 32 24 0 2 9 2 1 1 1 1 7 96 51 102 32
39 23 21 46 98 206 568 732 665 713 79 23 41 52 60 26 26 2 21 3 11 21 13 13 3 10 0 2 1 0 85 98 96 54
28 61 122 94 38 7 10 41 43 150 75 58 50 45 13 7 2 0 19 4 3 17 17 17 20 17 13 3 4 2 14 39 22 18 16 17
7 13 4 7 5 0 3 10 8 25 24 4 1 4 1 0 11 11 0 6 9 8 5 9 4 14 1 3 16 4 4 5
4 5 7 5 2 13 1 0 4 1 0 9 2 5 3 3 8 10 1 0 14 2 1 0
18 20 6 2 0 7 1 4 0 0 1 8 6 1 0 2 3 2 16 5 0 0 12
16 5 2 0 0 4 1 0 0 0 1 4 10 2 2 2 3 3 0 0 3 15 20 35 30 3 4 22
10 3 0 0 0 0 2 2 0 1 0 0 3 13 3 3 1 1 1 1 0 0 11 52 129 68 46 24
2 1 1 2 0 0 0 1 5 1 1 1 1 1 1 1 14 37 53 380 217 40 9
0 0 0 0 0 0 0 0 0 0 6 3 10 2
0 0
0

AIRCRAFT MEAN WINDS BETWEEN 70 AND 500 HPA
FEBRUARY 1996
OBSERVATIONS WITH O-B VECTOR DIFFERENCE GREATER THAN 60 MPS EXCLUDED
VALUES ARE PRINTED WHERE MORE THAN 30 OBS ARE PRESENT

FIGURE 4



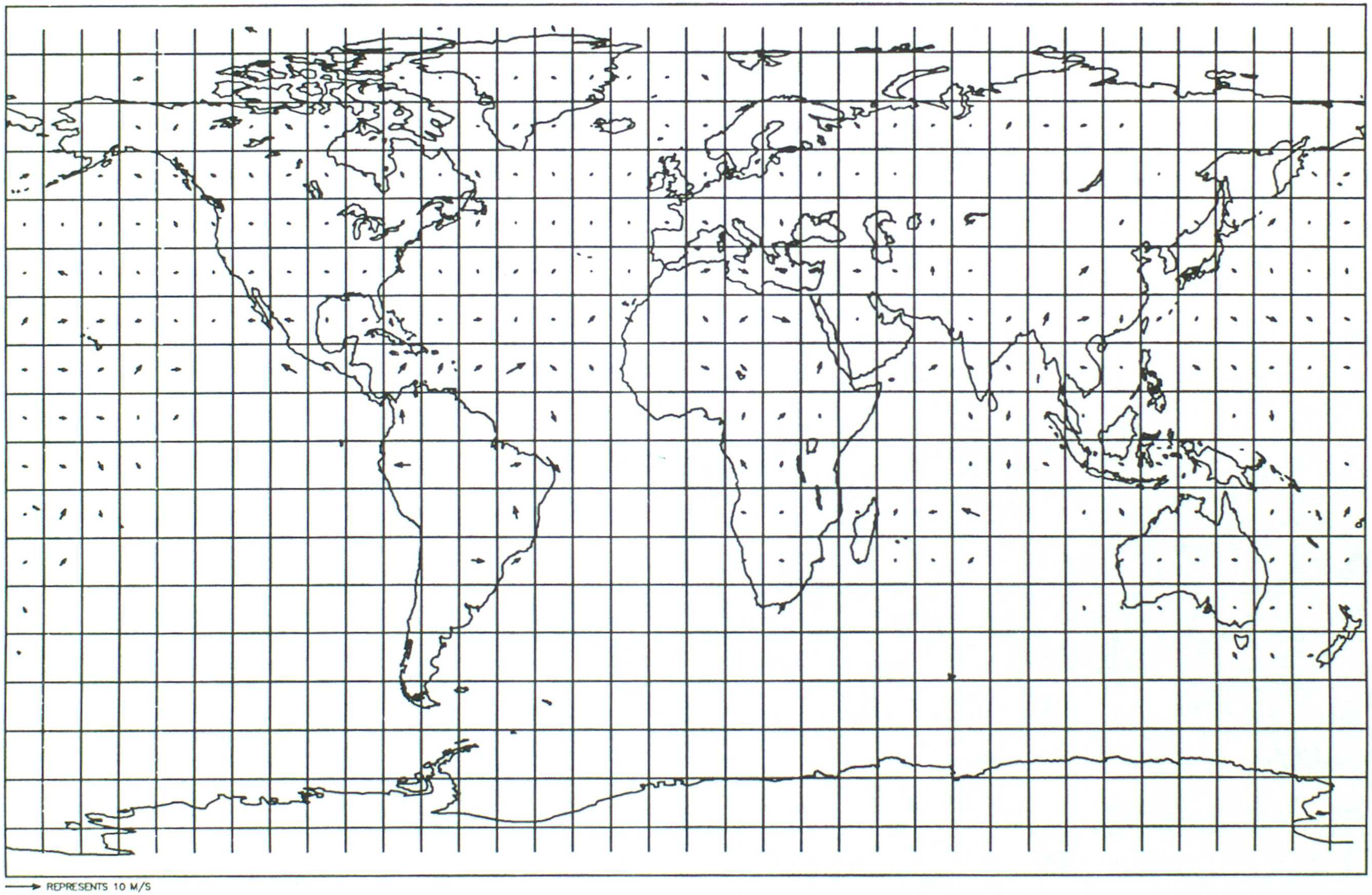
AIRCRAFT MEAN O–B WINDS BETWEEN 70 AND 500 HPA

FEBRUARY 1996

OBSERVATIONS WITH O–B VECTOR DIFFERENCE GREATER THAN 60 MPS EXCLUDED

VALUES ARE PRINTED WHERE MORE THAN 30 OBS ARE PRESENT

FIGURE 5

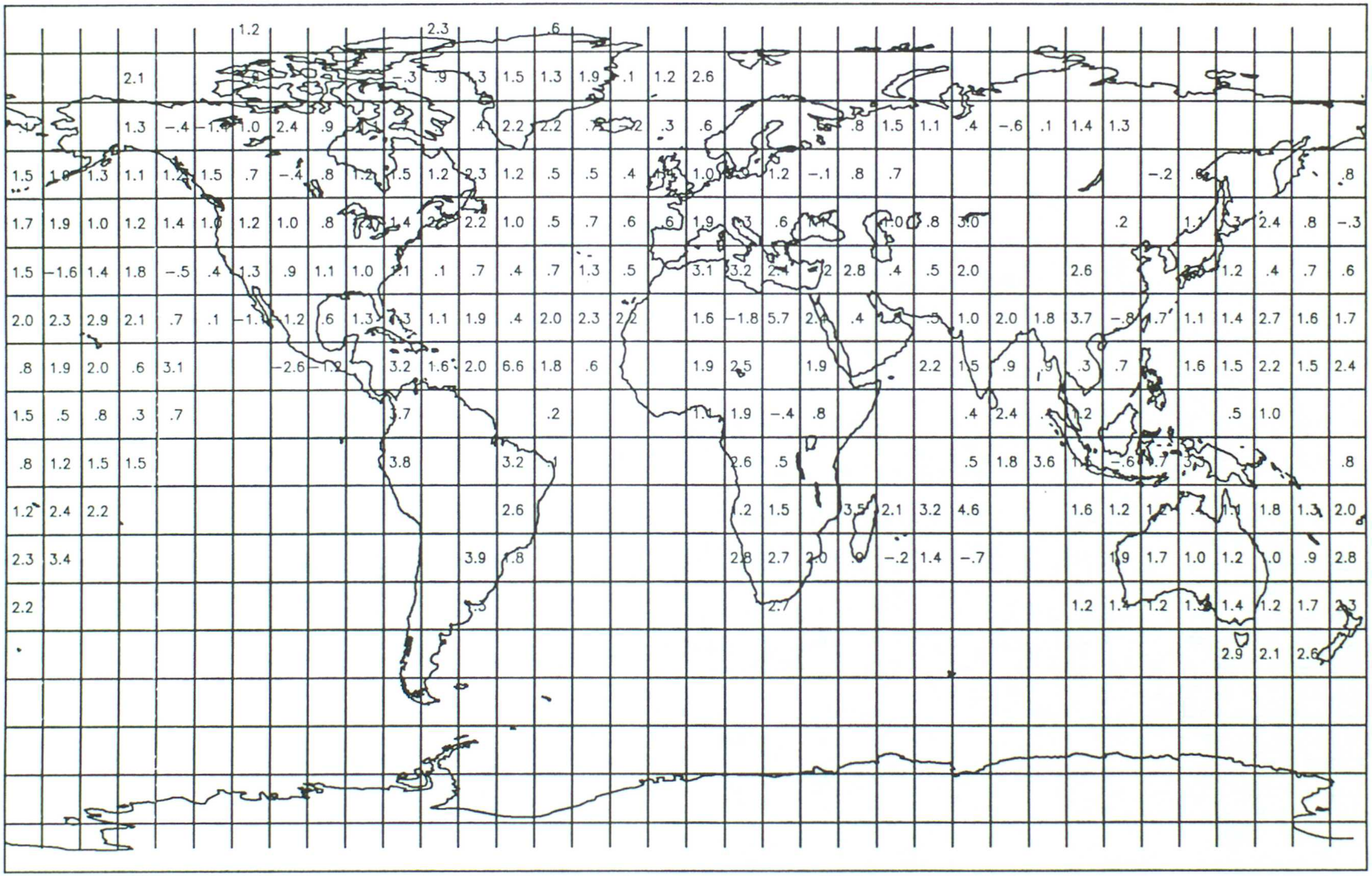


AIRCRAFT : MEAN O-B SPEEDS (M/S) BETWEEN 70 AND 500 HPA FIGURE 6

FEBRUARY 1996

OBSERVATIONS WITH O-B VECTOR DIFFERENCE > 60 MPS EXCLUDED

VALUES ARE PRINTED WHERE > 30 OBS ARE PRESENT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2.1 -.3 .9 1.3 1.5 1.3 1.9 .1 1.2 2.6
1.3 -.4 -1.4 1.0 2.4 .9 .4 2.2 2.2 .2 .3 .6 .8 1.5 1.1 .4 -.6 .1 1.4 1.3
1.5 1.8 1.3 1.1 1.2 1.5 .7 -.4 .8 1.2 1.5 1.2 2.3 1.2 .5 .5 .4 1.0 1.2 -.1 .8 .7 -.2 .8
1.7 1.9 1.0 1.2 1.4 1.0 1.2 1.0 .8 1.4 2.2 1.0 .5 .7 .6 .6 1.9 .6 1.0 .8 3.0 .2 1.1 2.4 .8 -.3
1.5 -1.6 1.4 1.8 -.5 .4 1.3 .9 1.1 1.0 .1 .7 .4 .7 1.3 .5 3.1 3.2 2.8 .4 .5 2.0 2.6 1.2 .4 .7 .6
2.0 2.3 2.9 2.1 .7 .1 -1.1 1.2 .6 1.3 1.1 1.9 .4 2.0 2.3 2.2 1.6 -1.8 5.7 .4 1.0 2.0 1.8 3.7 -.8 1.7 1.1 1.4 2.7 1.6 1.7
.8 1.9 2.0 .6 3.1 -2.6 -1.2 3.2 1.6 2.0 6.6 1.8 .6 1.9 2.5 1.9 2.2 1.5 .9 .9 .3 .7 1.6 1.5 2.2 1.5 2.4
1.5 .5 .8 .3 .7 .7 .2 1.9 -.4 .8 .4 2.4 .2 .5 1.0
.8 1.2 1.5 1.5 3.8 3.2 .1 2.6 .5 .5 1.8 3.6 -.6 .7 .8
1.2 2.4 2.2 2.6 .2 1.5 3.5 2.1 3.2 4.6 1.6 1.2 1.8 1.3 2.0
2.3 3.4 3.9 .8 2.8 2.7 2.0 .0 -.2 1.4 -.7 1.9 1.7 1.0 1.2 .0 .9 2.8
2.2 .5 2.7 1.2 1.2 1.4 1.4 1.2 1.7 2.3
2.9 2.1 2.6

AIRCRAFT : RMS O−B VECTOR (M/S) BETWEEN 70 AND 500 HPA FIGURE 7
FEBRUARY 1996
OBSERVATIONS WITH O−B VECTOR DIFFERENCE GREATER THAN 60 MPS EXCLUDED
VALUES ARE PRINTED WHERE > 30 OBS ARE PRESENT

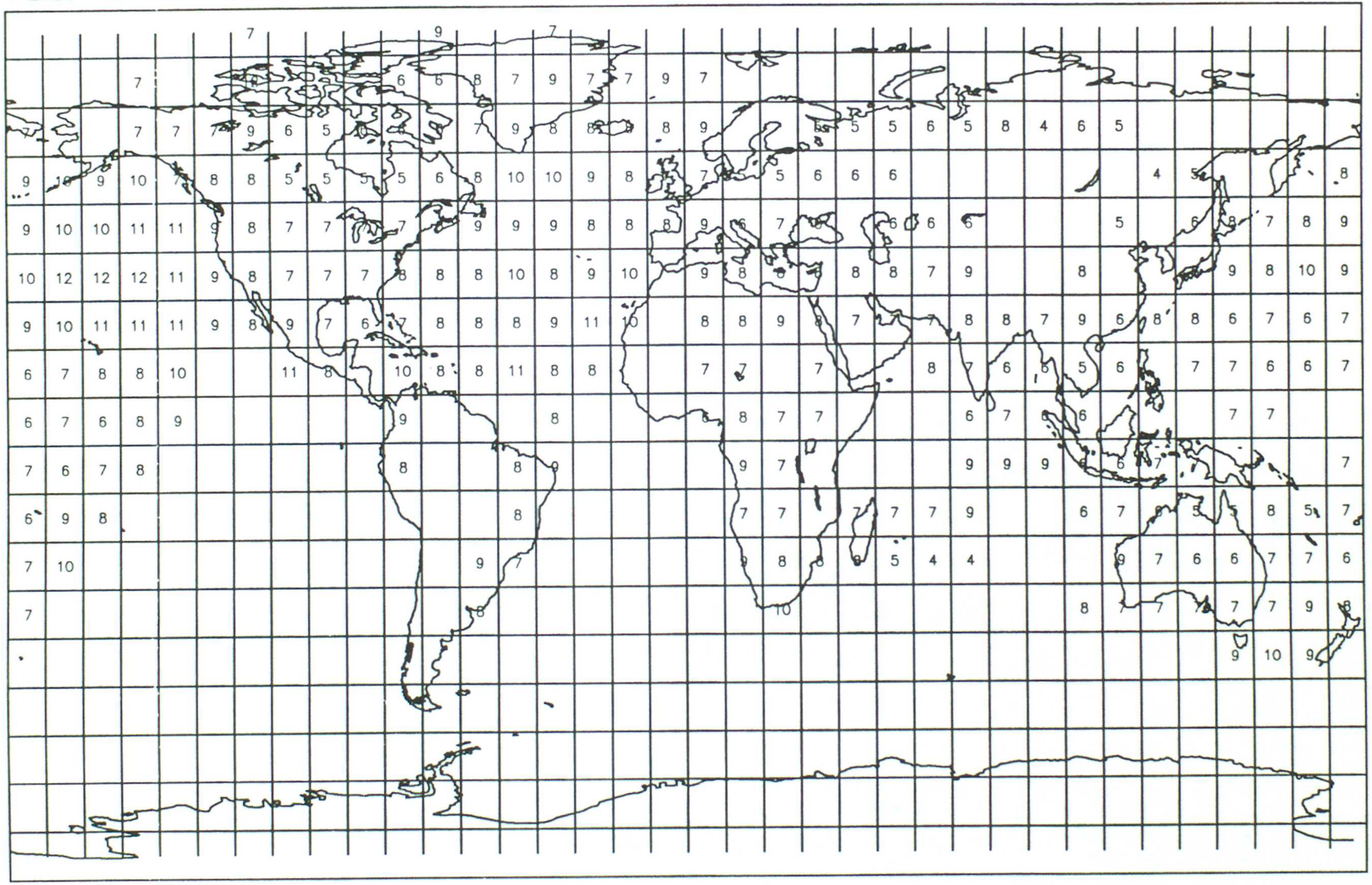


TABLE 5

MONTHLY MONITORING OF RADIOSONDE OBSERVATIONS
MONITORING CENTRE: BRACKNELL
MONTH: February 1996

Monitoring procedures

Period		:One calendar month.
Data monitored		:Reports from each unique identifier for radiosonde TEMPs.
Area monitored		:90°N - 90°S, 180°W - 180°E.
Standard of comparison		:Background field from Bracknell global model.
Observation times		:00 UTC and 12 UTC.
Level(s) monitored		:Standard levels between 1000.0 - 30.0 hPa
Element monitored		:GEOPOTENTIAL HEIGHT IN metres
Parameters monitored	:NUM OBS	:Number of observations available at level shown during period.
	:NUM GROSS	:Number of gross errors at level shown duringperiod.
	:% REJ	:Percentage of observations rejected by quality control at level shown during period.
	:SD	:SD of difference of observations from background values at level shown excluding those with gross errors.
	:BIAS	:Mean difference of observations from background values at level shown excluding those with gross errors.
	:RMS	:Root Mean Square difference of observations from background values at level shown excluding those with gross errors.
	:NUM LEVELS	:Number of levels satisfying selection criteria.
GROSS ERROR LIMITS	:Defined in Appendix 1.1	
SELECTION CRITERIA	: ≥3 levels with ≥10 observations and ≥ 100 m weighted RMS.	

ONLY THE WORST LEVEL IS SHOWN WITH UNWEIGHTED RMS

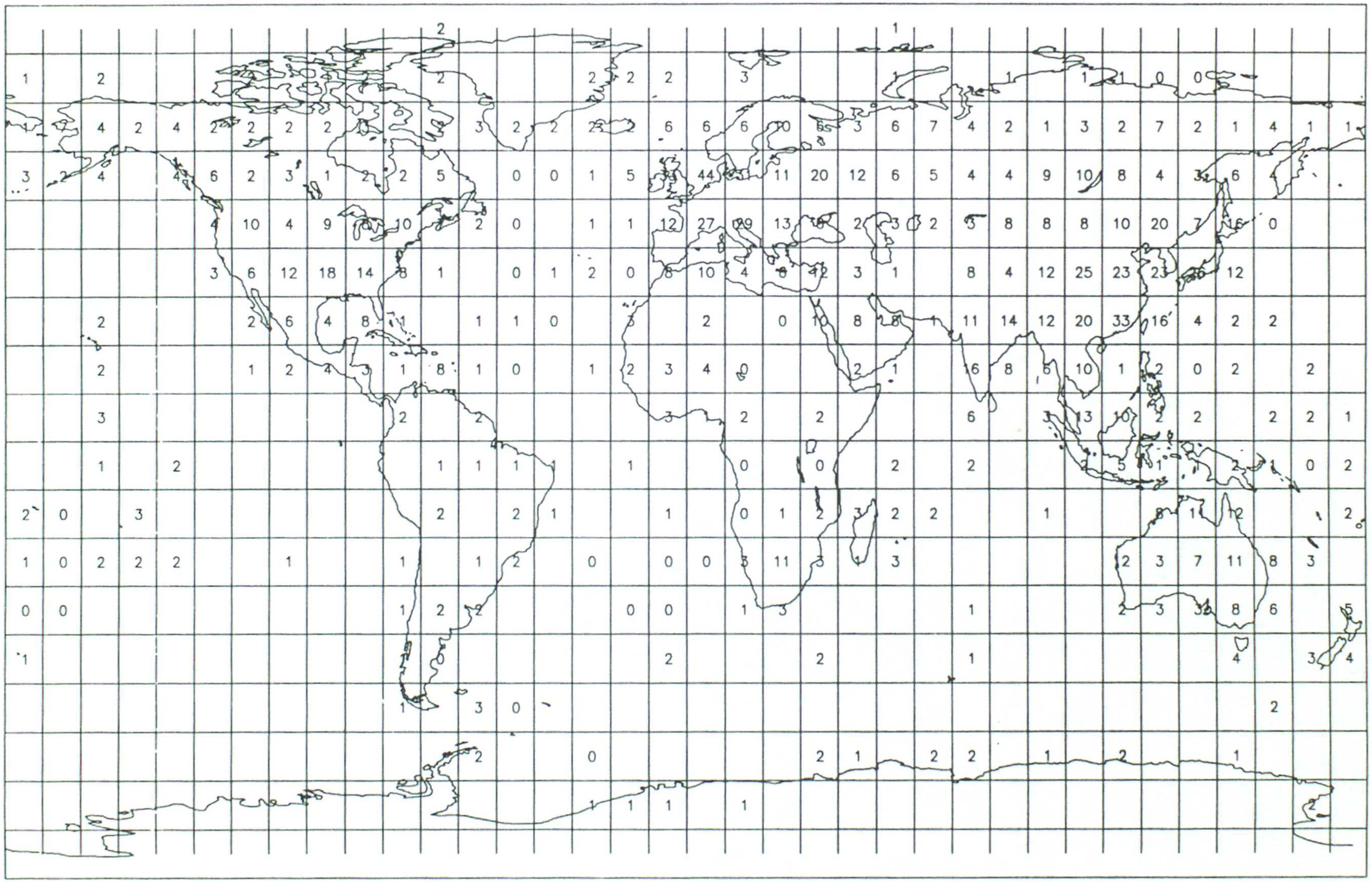
WMO IDENT	OBS TIME	ELM	LEV	LAT/LONG	NUM OBS	NUM GROSS	SD	BIAS	RMS	NUM LEVELS
FNOU	00	Z	400	43/ -13	12	0	72.5	107.5	129.6	7
FNOU	12	Z	400	43/ -13	10	0	74.9	96.0	121.7	7
37018	12	Z	70	44/ 39	19	0	27.1	168.3	170.5	9
41316	00	Z	50	17/ 54	15	0	126.5	-162.5	205.9	4
41780	00	Z	150	25/ 67	15	1	121.4	34.6	126.2	5
42027	12	Z	70	34/ 75	9	1	94.8	159.4	185.5	4
42182	00	Z	70	29/ 77	17	0	83.5	-165.0	184.9	8
42182	12	Z	200	29/ 77	27	0	59.0	-71.4	92.6	6
42314	00	Z	200	27/ 95	20	0	56.2	-88.3	104.7	6
42314	12	Z	70	27/ 95	10	0	153.4	-121.1	195.4	8
42339	00	Z	150	26/ 73	15	0	80.5	-115.1	140.4	5
42339	12	Z	200	26/ 73	18	0	91.8	-53.4	106.2	5
42361	00	Z	250	26/ 78	21	0	68.9	-50.0	85.2	6
42361	12	Z	200	26/ 78	21	0	96.5	-17.1	98.0	8
42369	00	Z	150	27/ 81	17	0	80.5	-67.8	105.3	7
42369	12	Z	150	27/ 81	17	2	96.9	-31.6	102.0	8
42379	00	Z	250	27/ 83	25	2	71.6	10.2	72.3	5
42379	12	Z	500	27/ 83	25	1	37.4	-34.5	50.9	5
42410	12	Z	100	26/ 92	17	0	73.1	-90.5	116.3	6
42647	12	Z	250	23/ 73	15	0	94.7	14.5	95.8	5
42667	00	Z	100	23/ 77	11	0	141.8	0.9	141.8	4
42701	12	Z	250	23/ 85	12	0	97.7	-35.3	103.8	5
42971	00	Z	250	20/ 86	20	2	92.3	-42.1	101.4	10
42971	12	Z	100	20/ 86	17	0	123.7	-73.4	143.8	7
43014	00	Z	150	20/ 75	23	1	87.3	-87.3	123.5	5
43014	12	Z	250	20/ 75	21	1	77.1	-39.6	86.7	5
43041	00	Z	100	19/ 82	14	0	86.4	-101.6	133.4	4
43128	00	Z	150	17/ 78	20	3	65.4	-107.1	125.5	10
43185	12	Z	70	16/ 81	16	1	96.1	170.2	195.5	6
43192	00	Z	150	15/ 74	21	0	129.4	-86.1	155.4	6
43279	00	Z	200	13/ 80	22	1	56.7	-85.9	102.9	6
43285	12	Z	70	13/ 75	8	2	99.5	191.5	215.8	6
43295	12	Z	250	13/ 78	23	0	63.4	41.9	76.0	4
43311	00	Z	250	11/ 73	15	1	87.0	-20.5	89.4	6
43369	00	Z	100	8/ 73	16	0	81.9	-118.9	144.4	8
43371	00	Z	70	8/ 77	19	1	170.7	-118.3	207.7	8
43371	12	Z	30	8/ 77	14	3	126.9	174.8	216.0	8
54497	00	Z	30	40/ 124	19	0	101.5	180.5	207.1	6
54497	12	Z	30	40/ 124	21	0	121.7	147.2	191.0	6
56739	12	Z	30	25/ 98	24	1	61.7	156.9	168.6	4
56778	12	Z	30	25/ 103	18	2	50.9	165.4	173.1	4
56985	12	Z	30	23/ 103	25	0	51.8	177.2	184.7	4
58457	00	Z	70	30/ 120	27	0	55.8	109.9	123.3	5
58606	12	Z	70	29/ 116	27	0	58.2	115.3	129.2	5
59211	12	Z	70	24/ 107	27	0	50.1	111.2	122.0	4
60360	12	Z	400	37/ 8	9	1	81.9	-48.9	95.4	4
60490	12	Z	500	36/ -1	12	6	54.9	-102.3	116.0	9
62306	12	Z	200	31/ 27	17	0	68.6	118.0	136.5	6
62378	12	Z	50	30/ 31	13	4	62.9	319.0	325.1	6
63450	12	Z	700	9/ 39	25	0	9.4	57.1	57.8	7
71867	12	Z	70	54/-101	17	0	133.8	-28.1	136.7	5
76394	00	Z	30	26/-100	18	0	41.7	189.4	194.0	4
82332	12	Z	50	-3/ -60	12	0	44.3	168.4	174.1	5
96163	00	Z	150	-1/ 100	15	0	104.8	-49.3	115.8	6
97014	00	Z	70	2/ 125	21	0	138.4	57.9	150.0	7
97560	00	Z	50	-1/ 136	15	3	127.3	93.9	158.2	4

AVAILABILITY – TEMP – 500 HPA GEOPOTENTIAL – FEBRUARY 1996 FIGURE 8

ALL HOURS

10 DEGREE BOX AVERAGE NUMBER OF OBSERVATIONS IN 24 HOURS

TOTAL AVERAGE NUMBER OF OBSERVATIONS IN 24 HOURS – 1419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3 2 4 4 6 2 3 1 2 2 5 0 0 1 5 33 44 11 20 12 6 5 4 4 9 10 8 4 3 6 4
4 10 4 9 6 10 2 0 1 1 12 27 29 13 18 2 3 3 2 5 8 8 8 10 20 7 16 0
3 6 12 18 14 8 1 0 1 2 0 8 10 4 8 42 3 1 8 4 12 25 23 23 30 12
2 2 6 4 8 1 1 1 0 3 2 0 10 8 8 1 11 14 12 20 33 16 4 2 2
2 1 2 4 3 1 8 1 0 1 2 3 4 0 2 1 6 8 6 10 1 2 0 2 2
3 2 2 3 2 2 6 3 13 10 2 2 2 2 1
1 2 1 1 1 1 1 0 0 2 2 2 5 1 2 1 0 2
2 0 3 2 2 1 1 0 1 2 3 2 2 1 8 1 12 1 2
1 0 2 2 2 1 1 1 2 0 0 0 3 11 3 1 3 2 3 7 11 8 3
0 0 1 2 2 0 0 1 3 1 2 3 32 8 6 5
1 0 2 2 1 4 3 4
1 3 0 2
2 0 2 1 2 2 1 2 1
1 1 1 1 2

TABLE 6

MONTHLY MONITORING OF RADIOSONDE OBSERVATIONS
MONITORING CENTRE: BRACKNELL
MONTH: February 1996

Monitoring procedures

Period	:One calendar month.
Data monitored	:Reports from each unique identifier for radiosonde TEMPs.
Area monitored	:90°N - 90°S, 180°W - 180°E.
Standard of comparison	:Background field from Bracknell global model.
Observation times	:00 UTC and 12 UTC.
Level(s) monitored	:Standard levels between 1000.0 - 100.0 hPa
Element monitored	:VECTOR WIND in m s^{-1}

Parameters monitored

:NUM OBS	:Number of observations available at level shown during period.
:NUM GROSS	:Number of gross errors at level shown during period.
:% REJ	:Percentage of observations rejected by quality control at level shown during period.
:UBIAS,VBIAS	:Mean difference of observations of U and V components from background values at level shown excluding those with gross errors.
:RMS	:Root Mean Square difference of observations from background values at level shown excluding those with gross errors.
:NUM LEVELS	:Number of levels satisfying selection criteria.

GROSS ERROR LIMITS	:Defined in Appendix I.2
SELECTION CRITERIA	: ≥ 10 observations and ≥ 15 m s^{-1} RMS vector wind.

ONLY THE STANDARD LEVEL BETWEEN 1000 - 100 hPa WITH HIGHEST RMS IS SHOWN

WMO IDENT	OBS TIME	ELM	LEV	LAT/LONG	NUM OBS	NUM GROSS	% REJ	UBIAS	VBIAS	RMS	LEVELS
16144	12	V	250	45/ 12	19	0	10	0.3	5.0	16.4	1
41316	00	V	250	17/ 54	23	0	17	-18.8	3.6	21.0	4
41530	00	V	150	34/ 72	10	0	10	8.1	3.2	15.3	1
41780	00	V	150	25/ 67	15	0	0	-17.5	7.5	21.0	4
42339	00	V	200	26/ 73	16	0	31	-27.3	-4.8	29.5	4
42339	12	V	250	26/ 73	18	0	27	-27.0	-4.6	25.4	4
42379	00	V	200	27/ 83	15	0	0	-9.1	2.9	16.4	2
42379	12	V	200	27/ 83	14	0	0	-10.7	1.7	16.2	1
43014	00	V	200	20/ 75	15	0	20	13.1	-0.4	18.6	2
43014	12	V	200	20/ 75	10	0	10	13.0	0.5	19.2	1
56691	00	V	150	27/ 104	14	0	14	3.4	6.4	18.3	2
58633	00	V	100	29/ 119	28	0	17	12.0	-0.3	17.6	1
58633	12	V	100	29/ 119	24	0	12	8.1	0.1	15.0	1
60490	12	V	150	36/ -1	15	0	13	5.7	1.0	15.9	1
62306	00	V	200	31/ 27	18	0	5	11.8	-5.5	15.9	1
89022	12	V	300	-75/ -27	21	0	14	5.1	-2.8	16.0	1

AVAILABILITY – TEMP/PILOT – 300 HPA WIND – FEBRUARY 1996 FIGURE 9

ALL HOURS

10 DEGREE BOX AVERAGE NUMBER OF OBSERVATIONS IN 24 HOURS

TOTAL AVERAGE NUMBER OF OBSERVATIONS IN 24 HOURS – 1249

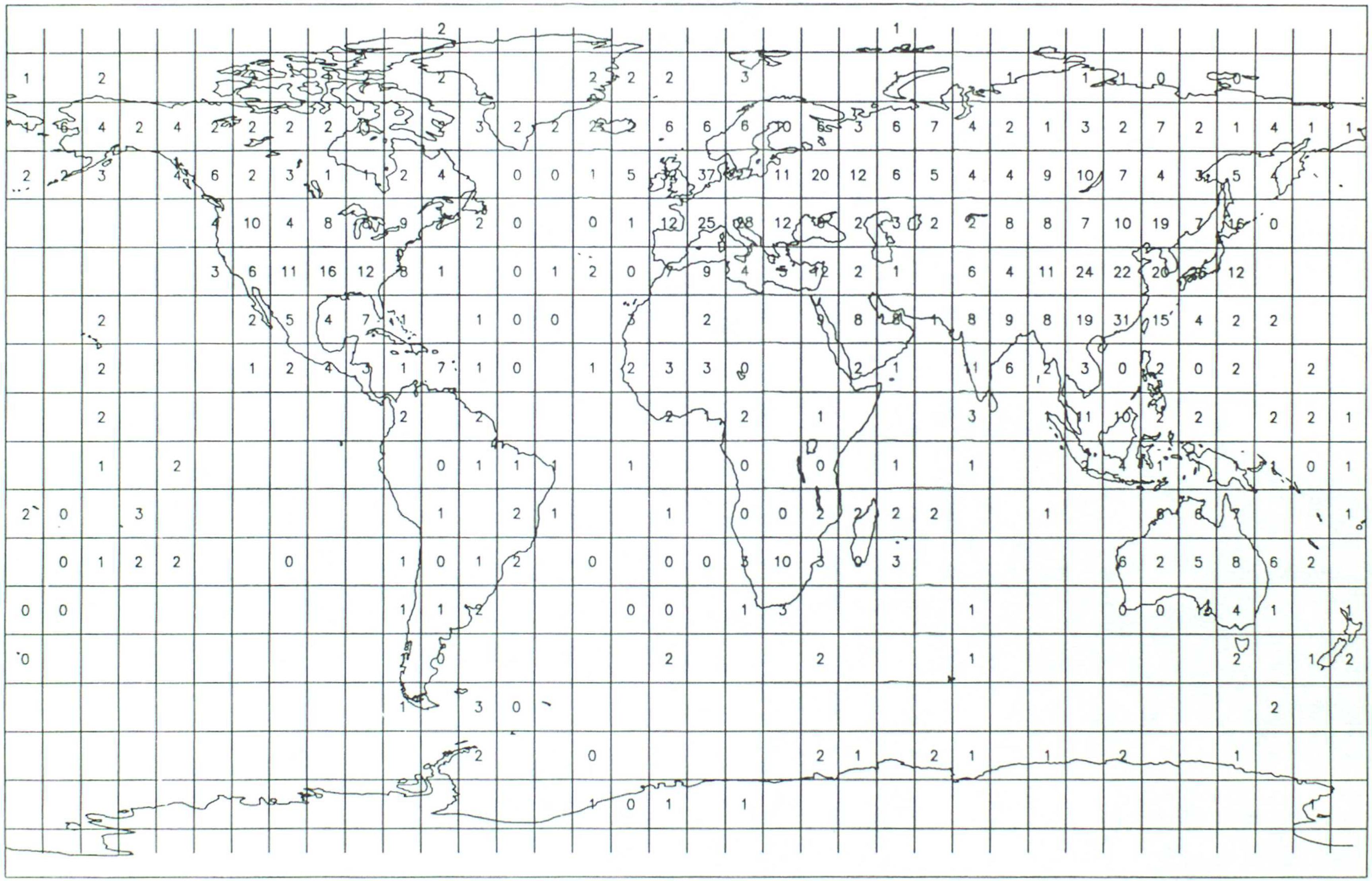

2 1
1 2 2 2 2 2 3 1 1 1 0 0
6 4 2 4 2 2 2 2 3 2 2 2 2 6 6 6 10 65 3 6 7 4 2 1 3 2 7 2 1 4 1 1
2 2 3 4 6 2 3 1 1 2 4 0 0 1 5 3 37 11 20 12 6 5 4 4 9 10 7 4 3 5 4
4 10 4 8 9 2 0 0 1 12 25 38 12 2 3 2 2 8 8 7 10 19 7 16 0
3 6 11 16 12 8 1 0 1 2 0 7 9 4 5 42 2 1 6 4 11 24 22 20 26 12
2 2 5 4 7 1 1 0 0 3 2 9 8 8 1 8 9 8 19 31 15 4 2 2
2 1 2 4 3 1 7 1 0 1 2 3 3 0 2 1 1 6 2 3 0 2 0 2 2
2 2 2 2 1 3 11 10 2 2 2 2 1
1 2 0 1 1 1 1 0 0 1 1 4 1 1 0 1
2 0 3 1 2 1 1 0 0 2 2 2 2 1 8 6 7 1
0 1 2 2 0 1 0 1 2 0 0 0 3 10 3 0 3 6 2 5 8 6 2
0 0 1 1 2 0 0 1 3 1 0 0 12 4 1 1
0 1 0 2 2 1 2 1 2
1 3 0 2
2 0 2 1 2 1 1 2 1
1 0 1 1 1

TABLE 7

MONTHLY MONITORING OF RADIOSONDE OBSERVATIONS
MONITORING CENTRE: BRACKNELL
MONTH: February 1996

Monitoring procedures

Period :One calendar month.

Data monitored :Reports from each unique identifier for radiosonde TEMPs.

Area monitored :90°N - 90°S, 180°W - 180°E.

Standard of comparison :Background field from Bracknell global model.

Observation times :00 UTC and 12 UTC.

Level(s) monitored :Standard levels between 500.0 - 150.0 hPa

Element monitored :WIND DIRECTION in degrees

Parameters monitored

:NUM OBS :Average number of observations at all levels.

:BIAS :Mean difference of observations from background values from all levels.

:MAX SPREAD :(For observation - background values) Maximum absolute difference of SD at any level from SD at all levels

:SD :SD of difference of observations from background values at all levels.

SELECTION CRITERIA :NUM OBS ≥ 5, and
ABSOLUTE BIAS $\geq 10°$, with
SD $< 30°$, and
MAX SPREAD $< 10°$

WMO IDENT	OBS TIME	ELM	LAT/LONG	NUM OBS	BIAS	MAX SPREAD	SD
16144	12	DD	45/ 12	18	10.5	7.4	22.8
17240	00	DD	38/ 31	25	-11.4	6.3	15.2
17240	12	DD	38/ 31	24	-10.1	2.9	12.8
17280	00	DD	38/ 40	27	-11.2	6.0	13.8
21504	12	DD	75/ 113	12	-13.1	9.4	20.1
40265	00	DD	32/ 36	23	-26.9	4.0	12.3
42339	00	DD	26/ 73	19	14.3	5.1	10.9
42369	00	DD	27/ 81	18	-10.2	2.9	10.7
53614	00	DD	38/ 106	28	-12.1	2.5	6.5
53614	12	DD	38/ 106	28	-11.7	2.9	7.0
56080	12	DD	35/ 103	25	-10.8	7.0	14.8
60571	00	DD	32/ -2	17	11.2	4.3	11.7
60571	12	DD	32/ -2	15	11.1	8.7	16.3
83378	12	DD	-16/ -48	14	12.6	2.9	26.4
83840	12	DD	-26/ -49	11	-12.1	9.6	23.7
85543	12	DD	-33/ -72	24	-11.0	9.2	18.5

MONITORING OF SATELLITE WINDS

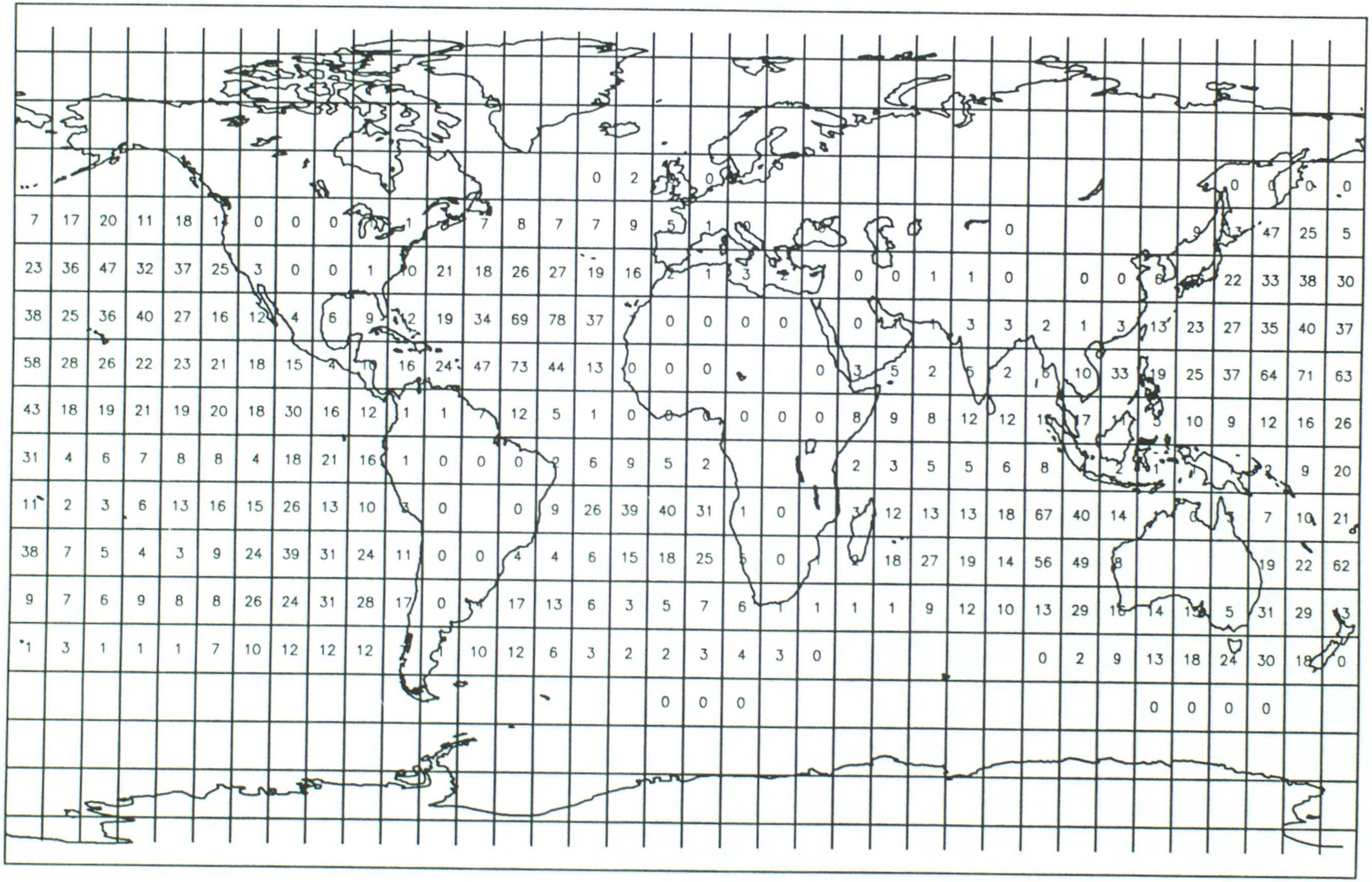
MONITORING CENTRE: BRACKNELL

MONTH: February 1996

Monitoring procedures

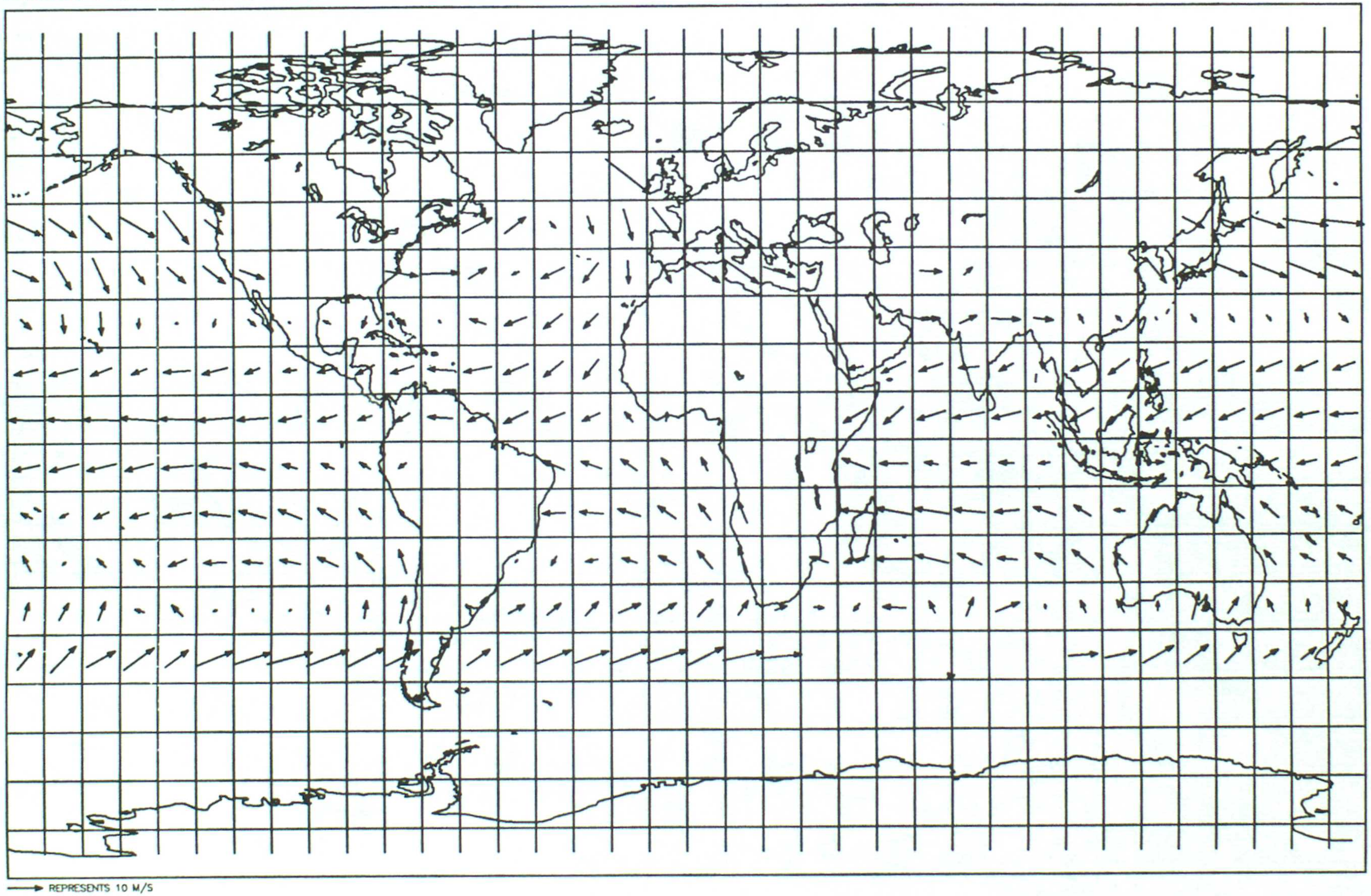
Period	:One calendar month.
Data monitored	:Reports from GOES, METEOSAT, GMS, INSAT.
Standard of comparison	:Background field from Bracknell global model.
Selection Criteria	:number of observations > 10.
Data Extracted	:Layer 701 - 1000 hPa 401 - 700 hPa 101 - 400 hPa :Mean wind :Mean observation minus background vector wind differences :Mean observation minus background speed differences :RMS of observation minus background vector differences

AVERAGE DAILY NUMBER OF SATOB OBSERVATIONS BETWEEN 701 AND 1000 HPA FIGURE 10
FEBRUARY 1996



SATOB VECTOR MEAN WINDS BETWEEN 701–1000 HPA
FEBRUARY 1996
ALL OBSERVATIONS
ARROWS PLOTTED WHERE MORE THAN 10 OBS ARE PRESENT

FIGURE 11


→ REPRESENTS 10 M/S

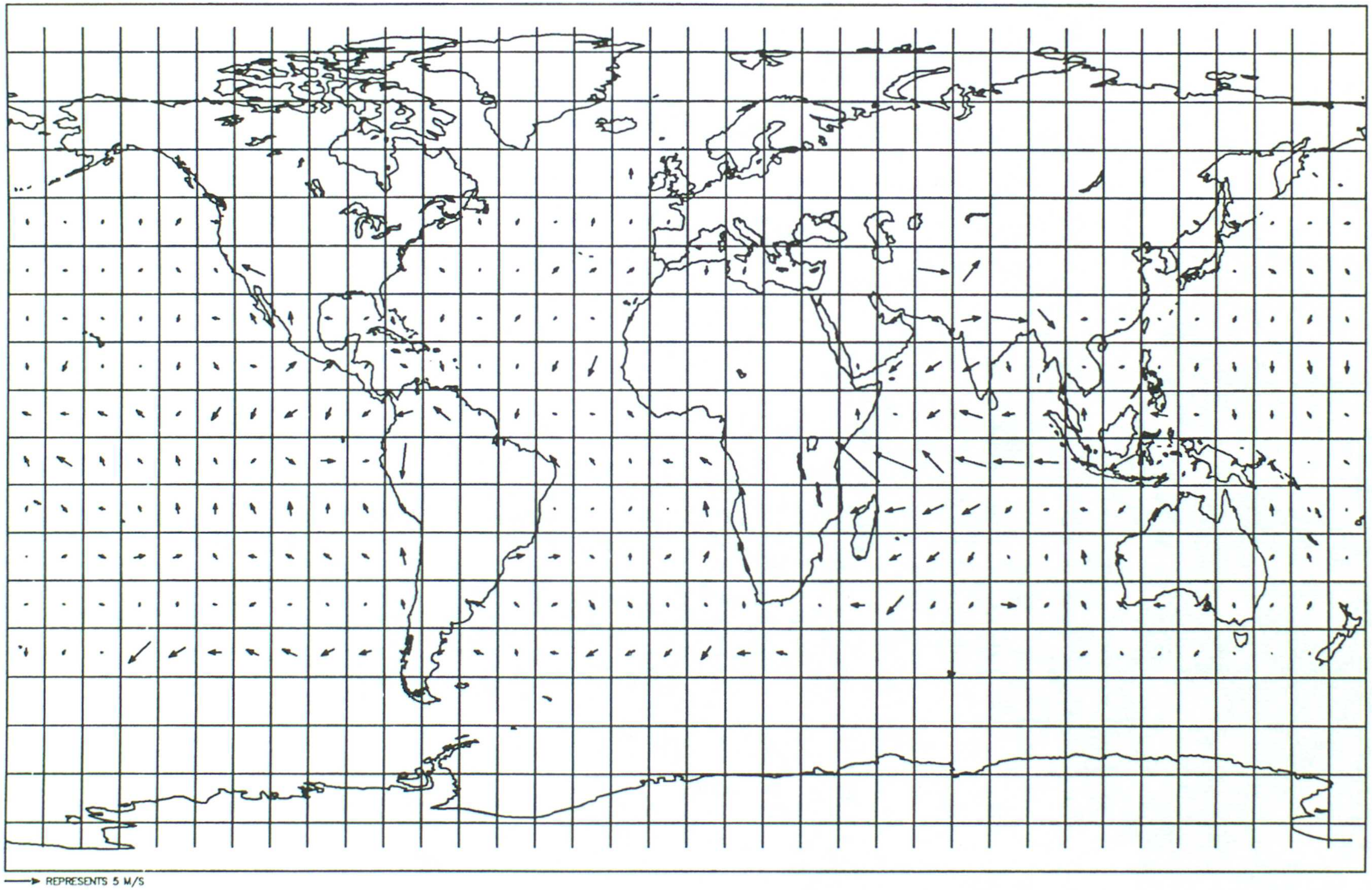
SATOB O–B VECTOR WIND DIFFERENCES BETWEEN 701–1000 HPA

FEBRUARY 1996

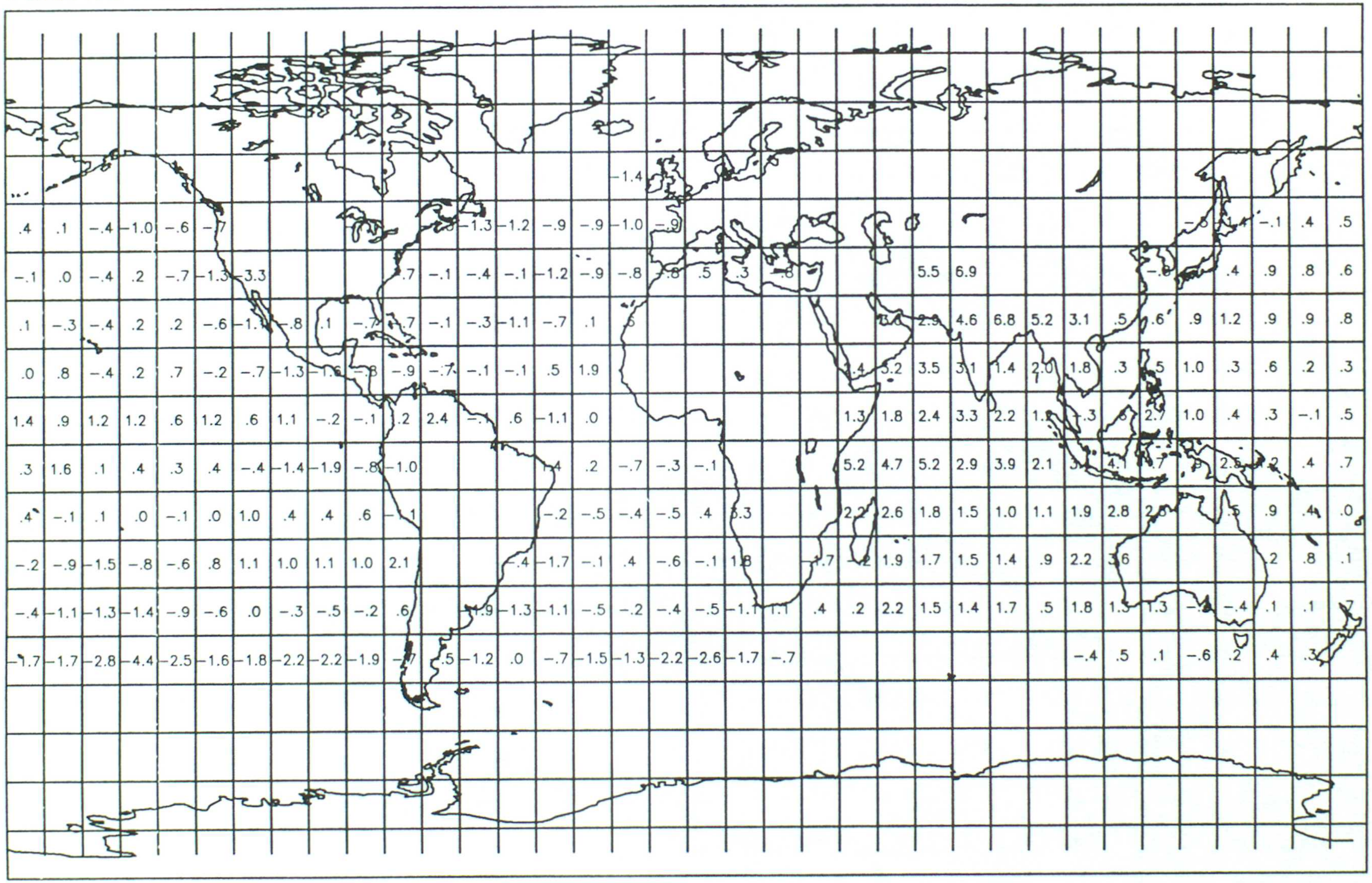
ALL OBSERVATIONS

ARROWS PLOTTED WHERE MORE THAN 10 OBS ARE PRESENT

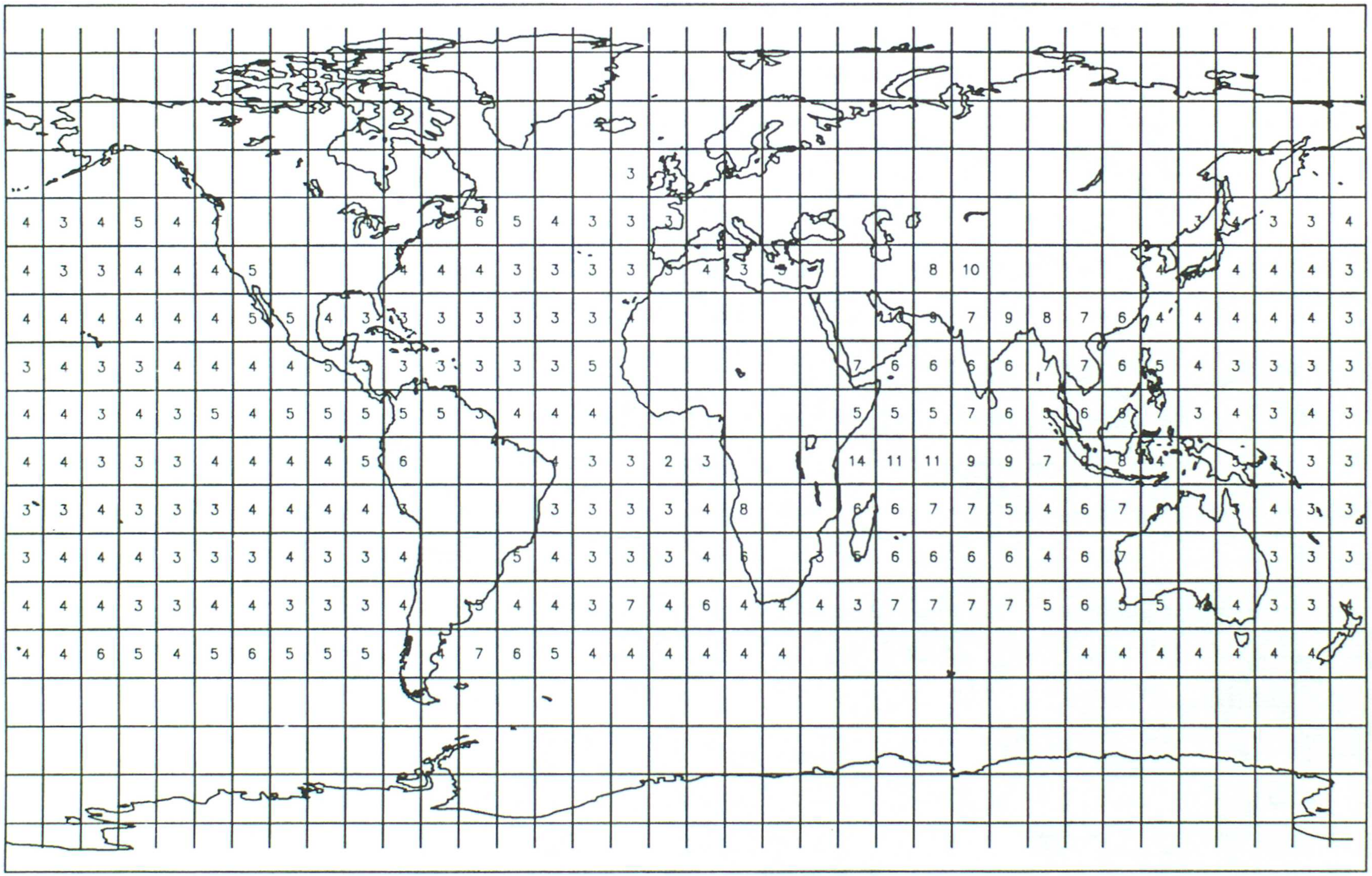
FIGURE 12



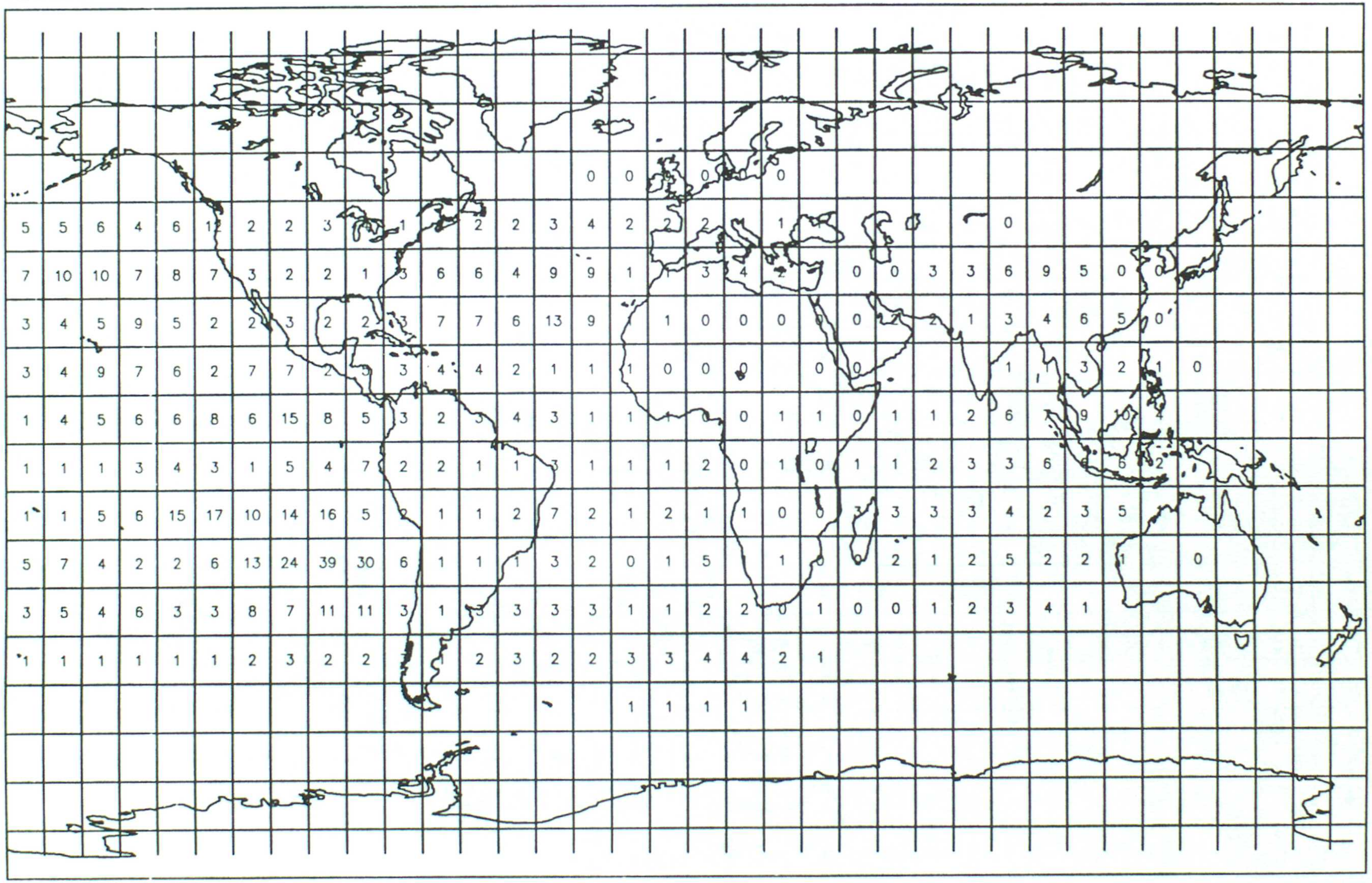
SATOBS : MEAN O−B SPEED DIFFERENCES (M/S) BETWEEN 701 AND 1000 HPA FIGURE 13
FEBRUARY 1996
USING ALL OBSERVATIONS
VALUES ARE PRINTED WHERE MORE THAN 10 OBS ARE PRESENT


−1.4
.4 .1 −.4 −1.0 −.6 −.7 −.8 −1.3 −1.2 −.9 −.9 −1.0 −.9 −.6 1.4 −.1 .4 .5
−.1 .0 −.4 .2 −.7 −1.3 −3.3 .7 −.1 −.4 −.1 −1.2 −.9 −.8 −.8 .5 .3 .8 5.5 6.9 −.8 .4 .9 .8 .6
.1 −.3 −.4 .2 .2 −.6 −1.1 −.8 .1 −.7 −.7 −.1 −.3 −1.1 −.7 .1 .6 3.6 2.9 4.6 6.8 5.2 3.1 .5 .6 .9 1.2 .9 .9 .8
.0 .8 −.4 .2 .7 −.2 −.7 −1.3 −1.6 −.8 −.9 −.7 −.1 −.1 .5 1.9 1.4 3.2 3.5 3.1 1.4 2.0 1.8 .3 .5 1.0 .3 .6 .2 .3
1.4 .9 1.2 1.2 .6 1.2 .6 1.1 −.2 −.1 .2 2.4 −.1 .6 −1.1 .0 1.3 1.8 2.4 3.3 2.2 1.5 −.3 .6 2.7 1.0 .4 .3 −.1 .5
.3 1.6 .1 .4 .3 .4 −.4 −1.4 −1.9 −.8 −1.0 1.4 .2 −.7 −.3 −.1 5.2 4.7 5.2 2.9 3.9 2.1 3.1 4.1 .7 .9 2.5 1.2 .4 .7
.4 −.1 .1 .0 −.1 .0 1.0 .4 .4 .6 −1.1 −.2 −.5 −.4 −.5 .4 3.3 2.2 2.6 1.8 1.5 1.0 1.1 1.9 2.8 2.5 .5 .9 .4 .0
−.2 −.9 −1.5 −.8 −.6 .8 1.1 1.0 1.1 1.0 2.1 −.4 −1.7 −.1 .4 −.6 −.1 1.8 1.7 −.2 1.9 1.7 1.5 1.4 .9 2.2 3.6 .2 .8 .1
−.4 −1.1 −1.3 −1.4 −.9 −.6 .0 −.3 −.5 −.2 .6 −1.9 −1.3 −1.1 −.5 −.2 −.4 −.5 −1.1 1.1 .4 .2 2.2 1.5 1.4 1.7 .5 1.8 1.3 1.3 −.3 −.4 .1 .1 .7
−1.7 −1.7 −2.8 −4.4 −2.5 −1.6 −1.8 −2.2 −2.2 −1.9 −.7 .5 −1.2 .0 −.7 −1.5 −1.3 −2.2 −2.6 −1.7 −.7 −.4 .5 .1 −.6 .2 .4 .3

SATOBS : RMS O–B VECTOR DIFFERENCES (M/S) BETWEEN 701 AND 1000 HPA FIGURE 14
FEBRUARY 1996
USING ALL OBSERVATIONS
VALUES ARE PRINTED WHERE MORE THAN 10 OBS ARE PRESENT

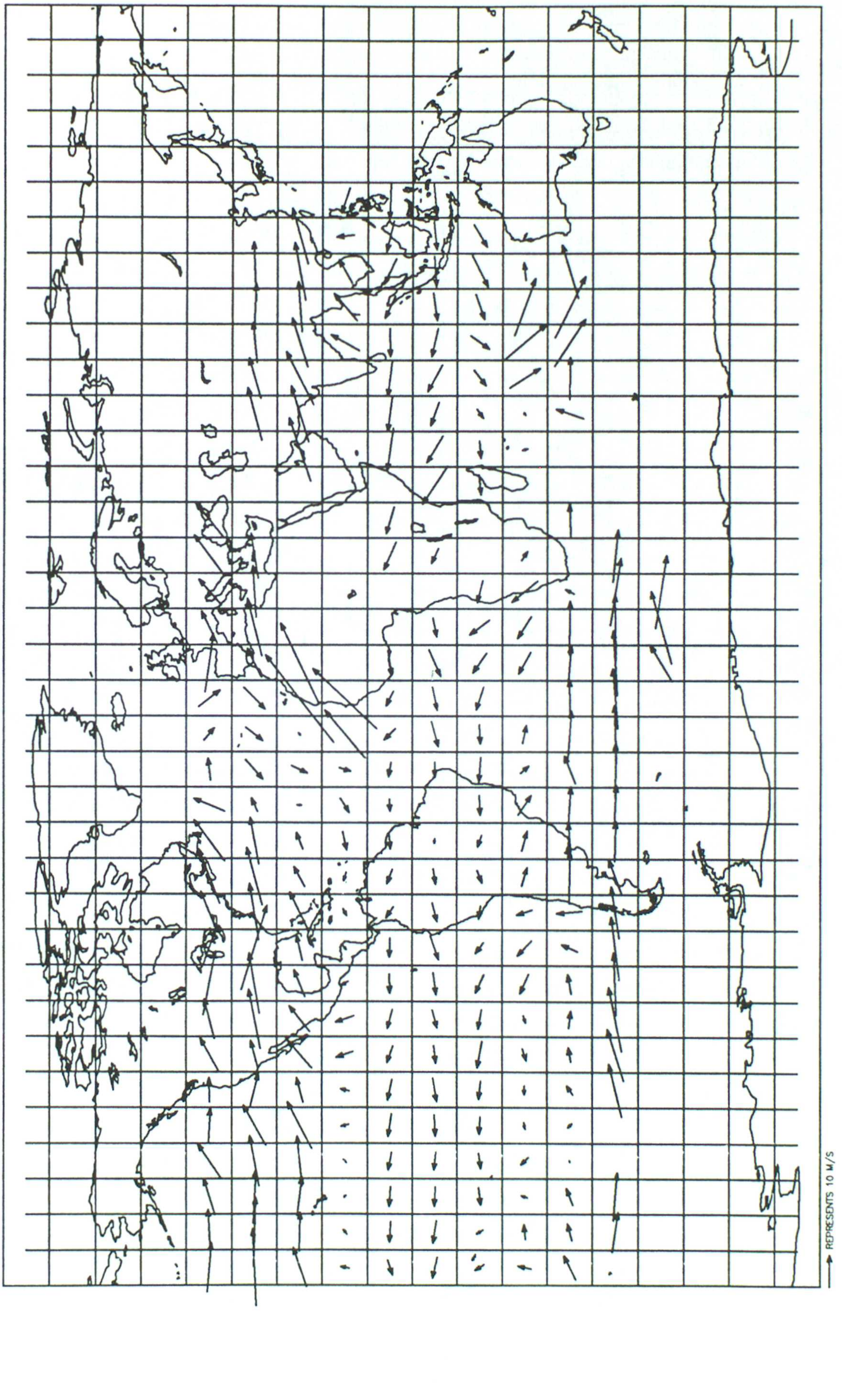

3
4 3 4 5 4 4 6 5 4 3 3 3 3 4 3 3 4
4 3 3 4 4 4 5 4 4 4 3 3 3 3 3 4 3 3 8 10 4 4 4 4 3
4 4 4 4 4 4 5 5 4 3 3 3 3 3 3 3 4 10 9 7 9 8 7 6 4 4 4 4 4 3
3 4 3 3 4 4 4 4 5 5 3 3 3 3 3 5 7 6 6 6 6 7 6 5 4 3 3 3 3
4 4 3 4 3 5 4 5 5 5 5 5 3 4 4 4 5 5 5 7 6 5 6 8 7 3 4 3 4 3
4 4 3 3 3 4 4 4 4 5 6 4 3 3 2 3 14 11 11 9 9 7 6 8 4 3 3 3 3
3 3 4 3 3 3 4 4 4 4 3 3 3 3 3 4 8 6 6 7 7 5 4 6 7 8 3 4 3 3
3 4 4 4 3 3 3 4 3 3 4 5 4 3 3 3 4 6 3 5 6 6 6 6 4 6 7 3 3 3
4 4 4 3 3 4 4 3 3 3 4 5 4 4 3 7 4 6 4 4 4 3 7 7 7 7 5 6 5 5 4 4 3 3 4
4 4 6 5 4 5 6 5 5 5 4 7 6 5 4 4 4 4 4 4 4 4 4 4 4 4 4

AVERAGE DAILY NUMBER OF SATOB OBSERVATIONS BETWEEN 401 AND 700 HPA FIGURE 15
FEBRUARY 1996


0 0 0 0 0
5 5 6 4 6 12 2 2 3 1 2 2 3 4 2 2 2 1 1 1 0
7 10 10 7 8 7 3 2 2 1 3 6 6 4 9 9 1 1 3 4 2 0 0 3 3 6 9 5 0 0
3 4 5 9 5 2 2 3 2 2 3 7 7 6 13 9 1 1 0 0 0 0 0 2 2 1 3 4 6 5 0
3 4 9 7 6 2 7 7 2 3 3 4 4 2 1 1 1 0 0 0 0 0 1 1 3 2 1 0
1 4 5 6 6 8 6 15 8 5 3 2 3 4 3 1 1 1 0 0 1 1 0 1 1 2 6 7 9 10 4
1 1 1 3 4 3 1 5 4 7 2 2 1 1 3 1 1 1 2 0 1 0 1 1 2 3 3 6 6 6 2
1 1 5 6 15 17 10 14 16 5 2 1 1 2 7 2 1 2 1 1 0 0 3 3 3 3 4 2 3 5 1
5 7 4 2 2 6 13 24 39 30 6 1 1 1 3 2 0 1 5 1 0 2 1 2 5 2 2 1 0
3 5 4 6 3 3 8 7 11 11 3 1 3 3 3 3 1 1 2 2 0 1 0 0 1 2 3 4 1
1 1 1 1 1 1 2 3 2 2 1 2 3 2 2 3 3 4 4 2 1
1 1 1 1

SATOB VECTOR MEAN WINDS BETWEEN 401–700 HPA
FEBRUARY 1996
ALL OBSERVATIONS
ARROWS PLOTTED WHERE MORE THAN 10 OBS ARE PRESENT

FIGURE 16


REPRESENTS 10 M/S

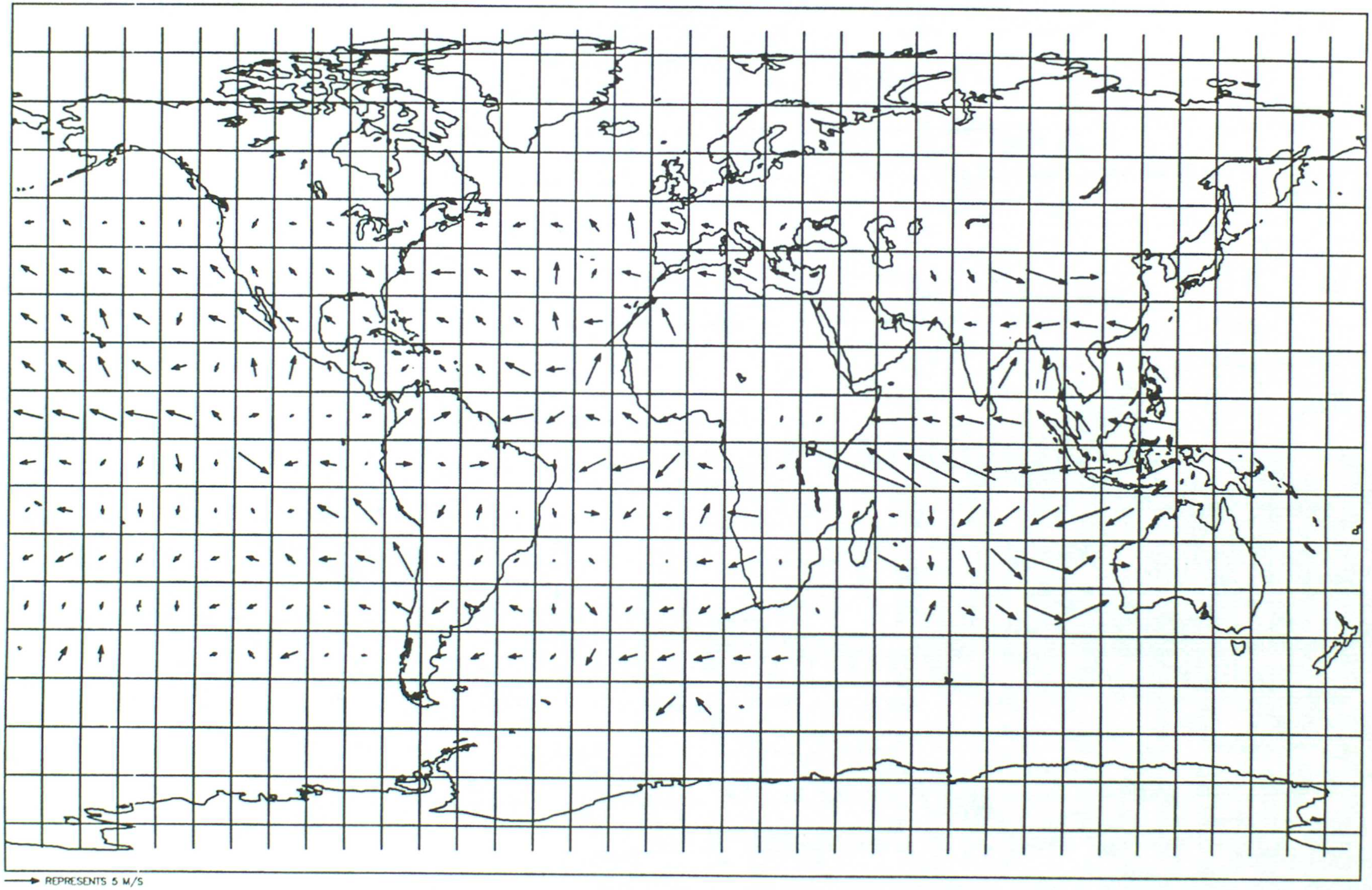
SATOB O–B VECTOR WIND DIFFERENCES BETWEEN 401–700 HPA

FEBRUARY 1996

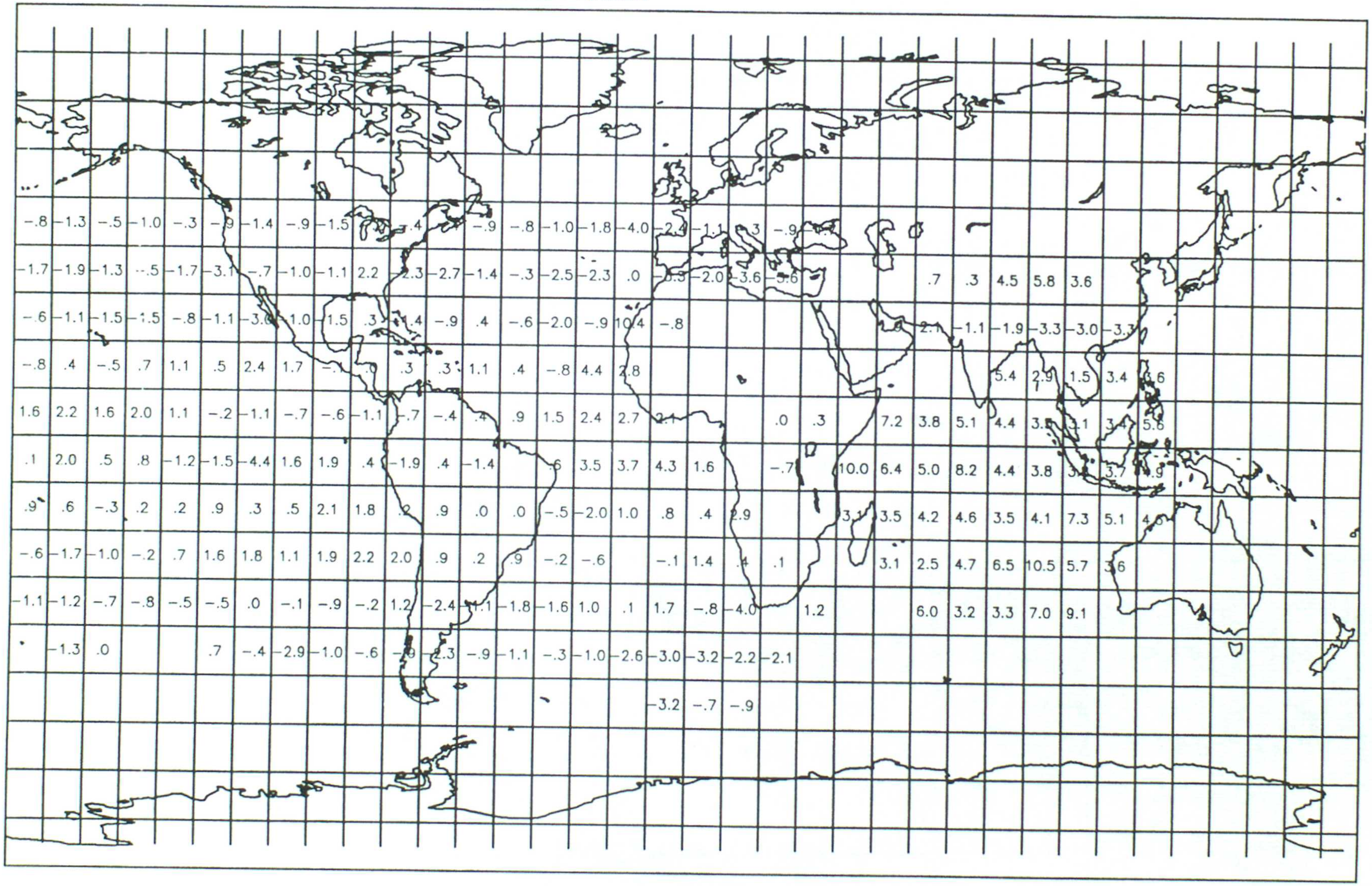
ALL OBSERVATIONS

ARROWS PLOTTED WHERE MORE THAN 10 OBS ARE PRESENT

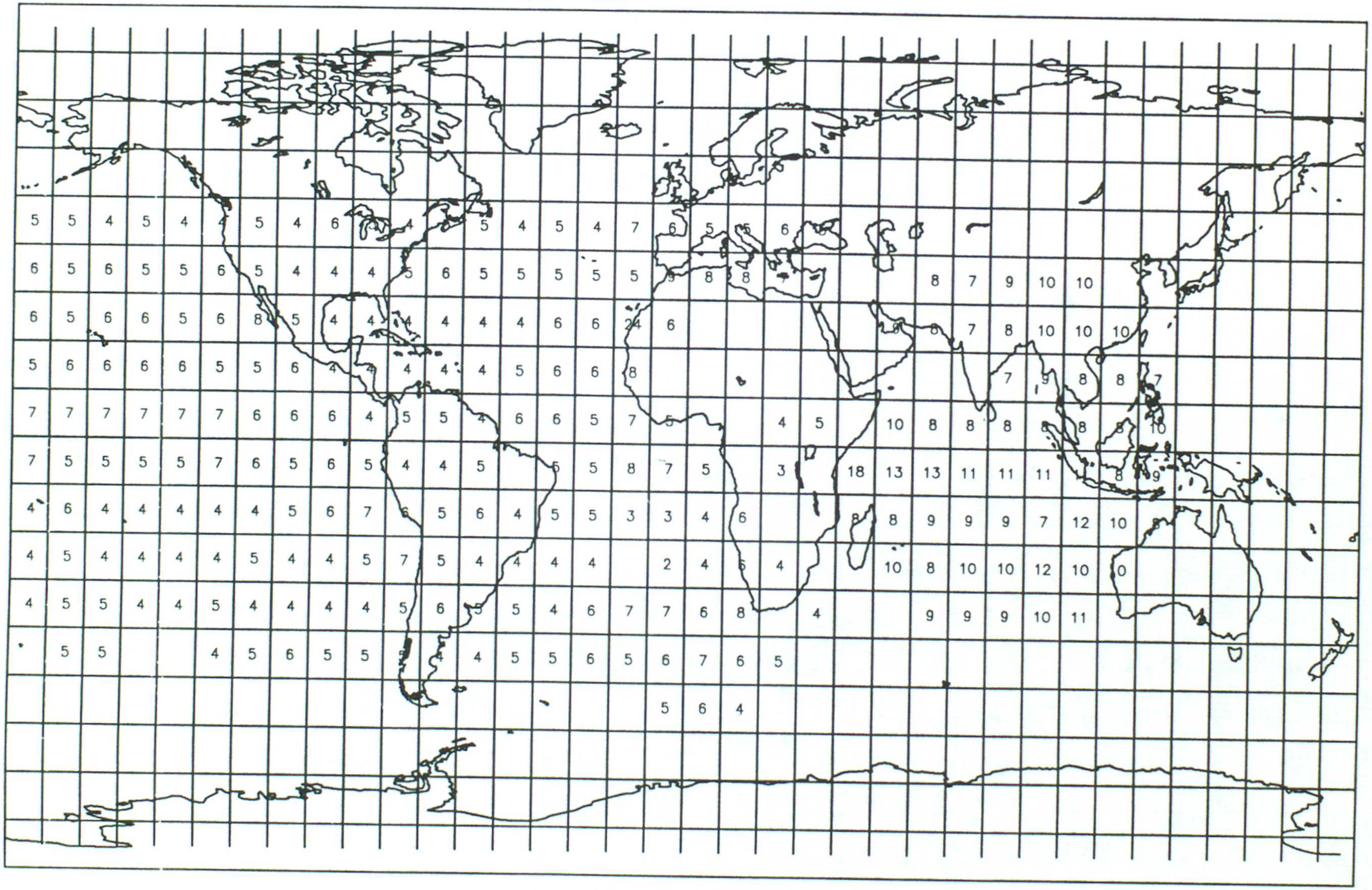
FIGURE 17



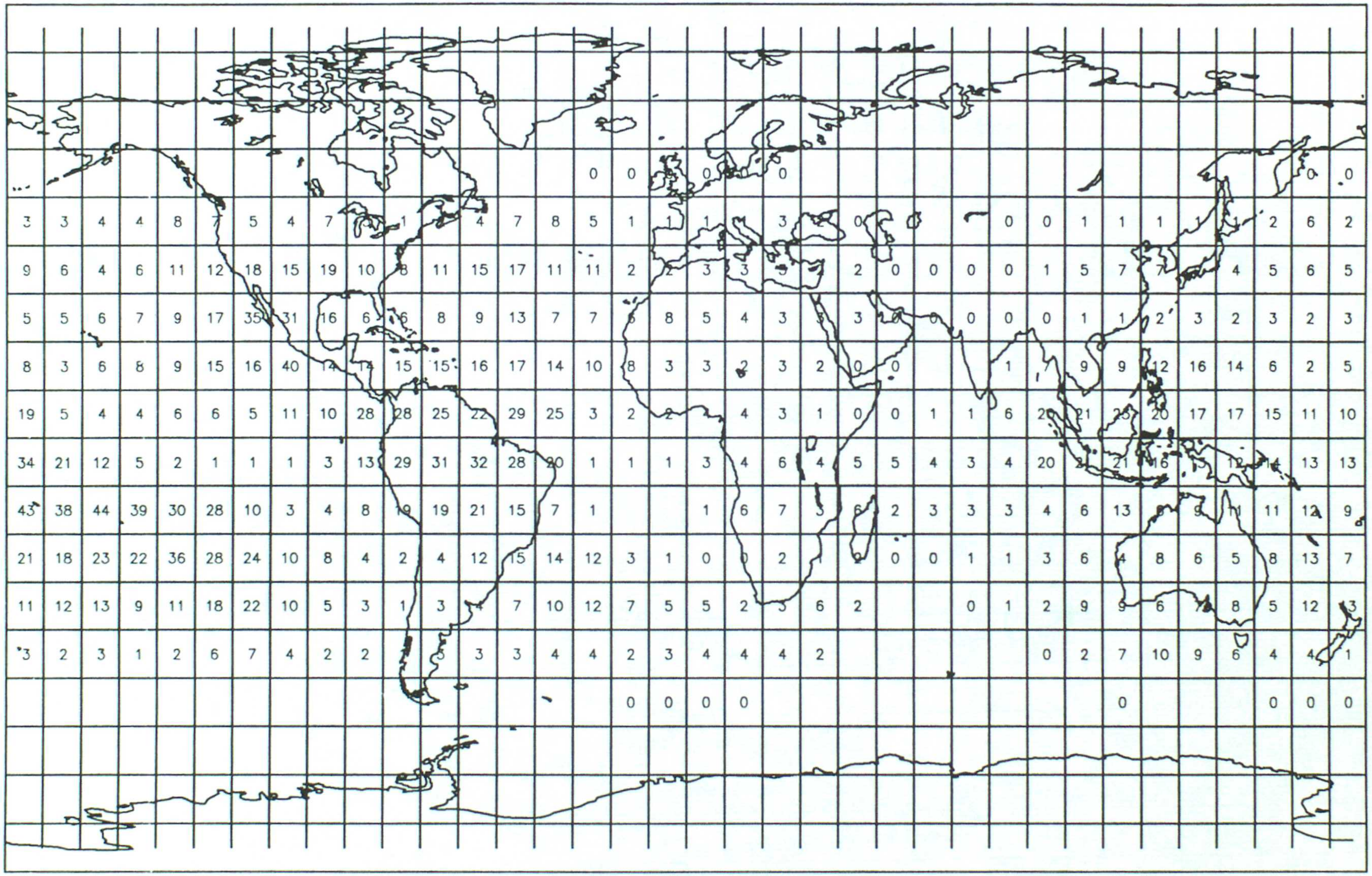
SATOBS : MEAN O-B SPEED DIFFERENCES (M/S) BETWEEN 401 AND 700 HPA FIGURE 18
FEBRUARY 1996
USING ALL OBSERVATIONS
VALUES ARE PRINTED WHERE MORE THAN 10 OBS ARE PRESENT


-.8 -1.3 -.5 -1.0 -.3 -.9 -1.4 -.9 -1.5 -.4 -.9 -.8 -1.0 -1.8 -4.0 -2.4 -1.1 .3 -.9
-1.7 -1.9 -1.3 -.5 -1.7 -3.1 -.7 -1.0 -1.1 2.2 -2.3 -2.7 -1.4 -.3 -2.5 -2.3 .0 -.3 -2.0 -3.6 -5.6 .7 .3 4.5 5.8 3.6
-.6 -1.1 -1.5 -1.5 -.8 -1.1 -3.6 -1.0 -1.5 .3 -1.4 -.9 .4 -.6 -2.0 -.9 10.4 -.8 2.1 -1.1 -1.9 -3.3 -3.0 -3.3
-.8 .4 -.5 .7 1.1 .5 2.4 1.7 -.1 .0 .3 .3 1.1 .4 -.8 4.4 2.8 5.4 2.9 1.5 3.4 .6
1.6 2.2 1.6 2.0 1.1 -.2 -1.1 -.7 -.6 -1.1 -.7 -.4 .4 .9 1.5 2.4 2.7 2.1 .0 .3 7.2 3.8 5.1 4.4 3.5 3.1 3.4 5.6
.1 2.0 .5 .8 -1.2 -1.5 -4.4 1.6 1.9 .4 -1.9 .4 -1.4 .6 3.5 3.7 4.3 1.6 -.7 10.0 6.4 5.0 8.2 4.4 3.8 3.6 3.7 4.9
.9 .6 -.3 .2 .2 .9 .3 .5 2.1 1.8 .2 .9 .0 .0 -.5 -2.0 1.0 .8 .4 2.9 3.1 3.5 4.2 4.6 3.5 4.1 7.3 5.1 4.6
-.6 -1.7 -1.0 -.2 .7 1.6 1.8 1.1 1.9 2.2 2.0 .9 .2 .9 -.2 -.6 -.1 1.4 .4 .1 3.1 2.5 4.7 6.5 10.5 5.7 3.6
-1.1 -1.2 -.7 -.8 -.5 -.5 .0 -.1 -.9 -.2 1.2 -2.4 -1.1 -1.8 -1.6 1.0 .1 1.7 -.8 -4.0 1.2 6.0 3.2 3.3 7.0 9.1
-1.3 .0 .7 -.4 -2.9 -1.0 -.6 -.9 -2.3 -.9 -1.1 -.3 -1.0 -2.6 -3.0 -3.2 -2.2 -2.1
-3.2 -.7 -.9

SATOBS : RMS O-B VECTOR DIFFERENCES (M/S) BETWEEN 401 AND 700 HPA FIGURE 19
FEBRUARY 1996
USING ALL OBSERVATIONS
VALUES ARE PRINTED WHERE MORE THAN 10 OBS ARE PRESENT


5 5 4 5 4 4 5 4 6 4 5 4 5 4 7 6 5 5 6
6 5 6 5 5 6 5 4 4 4 5 6 5 5 5 5 5 9 8 8 8 7 9 10 10
6 5 6 6 5 6 8 5 4 4 4 4 4 4 6 6 24 6 8 8 7 8 10 10 10
5 6 6 6 6 5 5 6 4 4 4 4 4 5 6 6 8 7 9 8 8 7
7 7 7 7 7 7 6 6 6 4 5 5 4 6 6 5 7 5 4 5 10 8 8 8 8 8 8 10
7 5 5 5 5 7 6 5 6 5 4 4 5 5 5 8 7 5 3 18 13 13 11 11 11 8 9
4 6 4 4 4 4 4 5 6 7 6 5 6 4 5 5 3 3 4 6 8 8 9 9 9 7 12 10 8
4 5 4 4 4 4 5 4 4 5 7 5 4 4 4 4 2 4 6 4 10 8 10 10 12 10 0
4 5 5 4 4 5 4 4 4 4 5 6 5 5 4 6 7 7 6 8 4 9 9 9 10 11
5 5 4 5 6 5 5 5 4 4 5 5 6 5 6 7 6 5
5 6 4

AVERAGE DAILY NUMBER OF SATOB OBSERVATIONS BETWEEN 101 AND 400 HPA FIGURE 20
FEBRUARY 1996


0 0 0 0 0 0 0
3 3 4 4 8 7 5 4 7 1 4 7 8 5 1 1 1 1 3 2 0 0 0 1 1 1 1 1 2 6 2
9 6 4 6 11 12 18 15 19 10 8 11 15 17 11 11 2 2 3 3 5 2 2 0 0 0 0 1 5 7 7 4 5 6 5
5 5 6 7 9 17 35 31 16 6 6 8 9 13 7 7 6 8 5 4 3 3 3 0 0 0 0 0 1 1 2 3 2 3 2 3
8 3 6 8 9 15 16 40 14 14 15 15 16 17 14 10 8 3 3 2 3 2 0 0 1 7 9 9 12 16 14 6 2 5
19 5 4 4 6 6 5 11 10 28 28 25 22 29 25 3 2 2 4 3 1 0 0 1 1 6 20 21 25 20 17 17 15 11 10
34 21 12 5 2 1 1 1 3 13 29 31 32 28 20 1 1 1 3 4 6 4 5 5 4 3 4 20 2 21 16 15 12 14 13 13
43 38 44 39 30 28 10 3 4 8 19 19 21 15 7 1 1 6 7 3 6 2 3 3 3 4 6 13 8 9 11 11 12 9
21 18 23 22 36 28 24 10 8 4 2 4 12 15 14 12 3 1 0 0 2 1 2 0 0 1 1 3 6 4 8 6 5 8 13 7
11 12 13 9 11 18 22 10 5 3 1 3 4 7 10 12 7 5 5 2 3 6 2 0 1 2 9 9 6 7 8 5 12 13
3 2 3 1 2 6 7 4 2 2 1 3 3 3 4 4 2 3 4 4 4 2 0 2 7 10 9 6 4 4 1
0 0 0 0 0 0 0 0

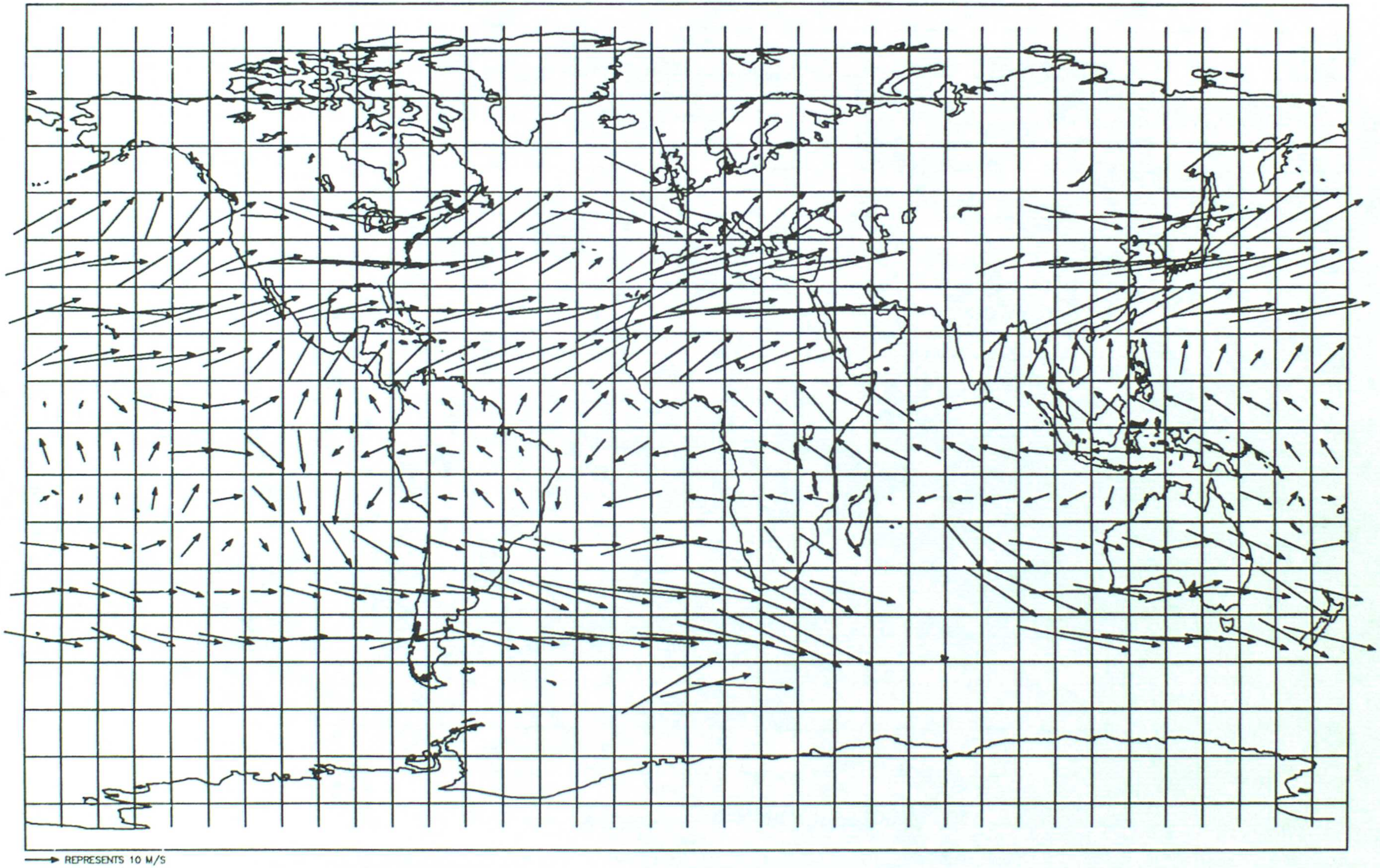
SATOB VECTOR MEAN WINDS BETWEEN 101–400 HPA

FEBRUARY 1996

ALL OBSERVATIONS

ARROWS PLOTTED WHERE MORE THAN 10 OBS ARE PRESENT

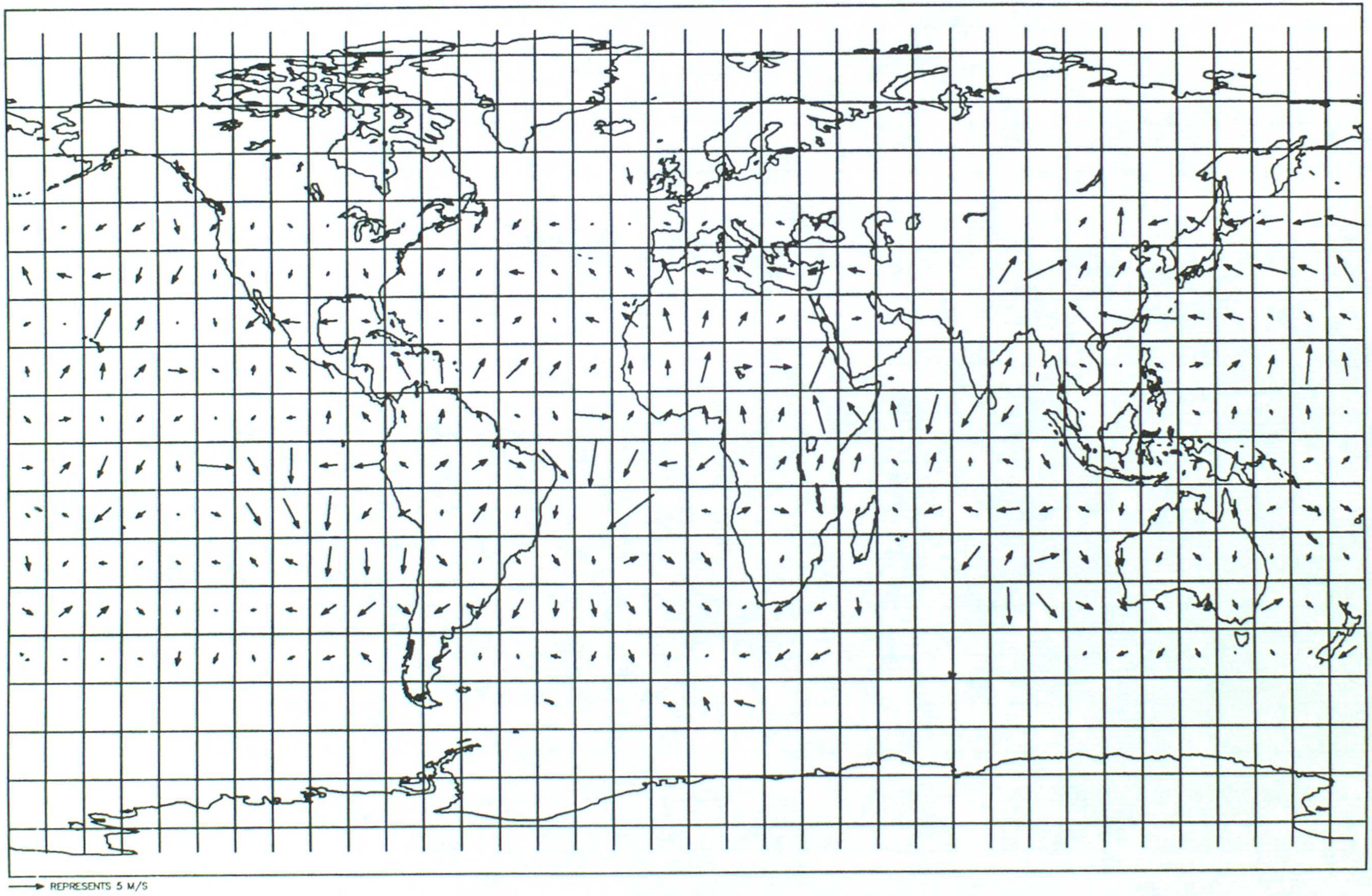
FIGURE 21


REPRESENTS 10 M/S

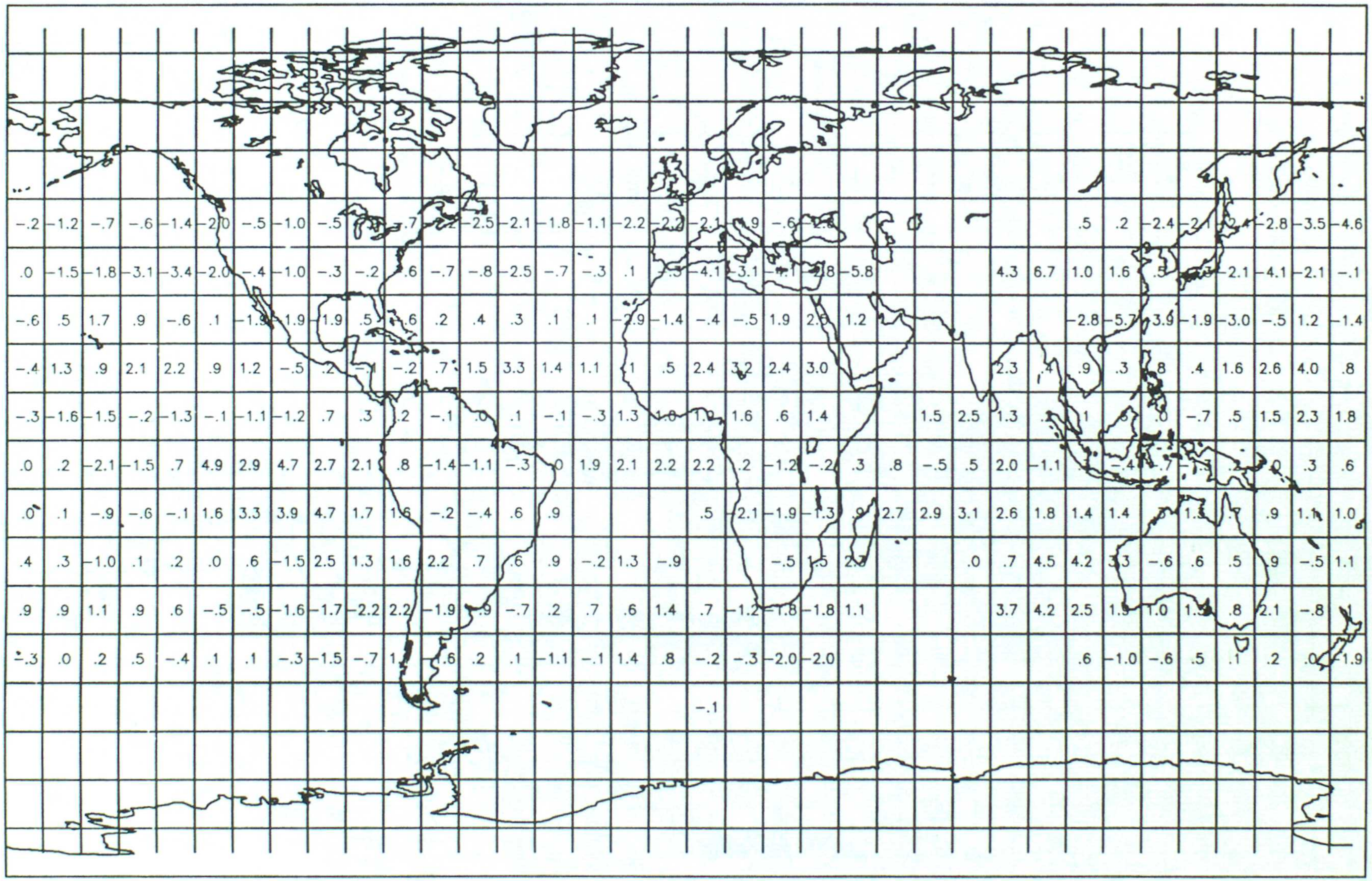
SATOB O-B VECTOR WIND DIFFERENCES BETWEEN 101-400 HPA

FIGURE 22

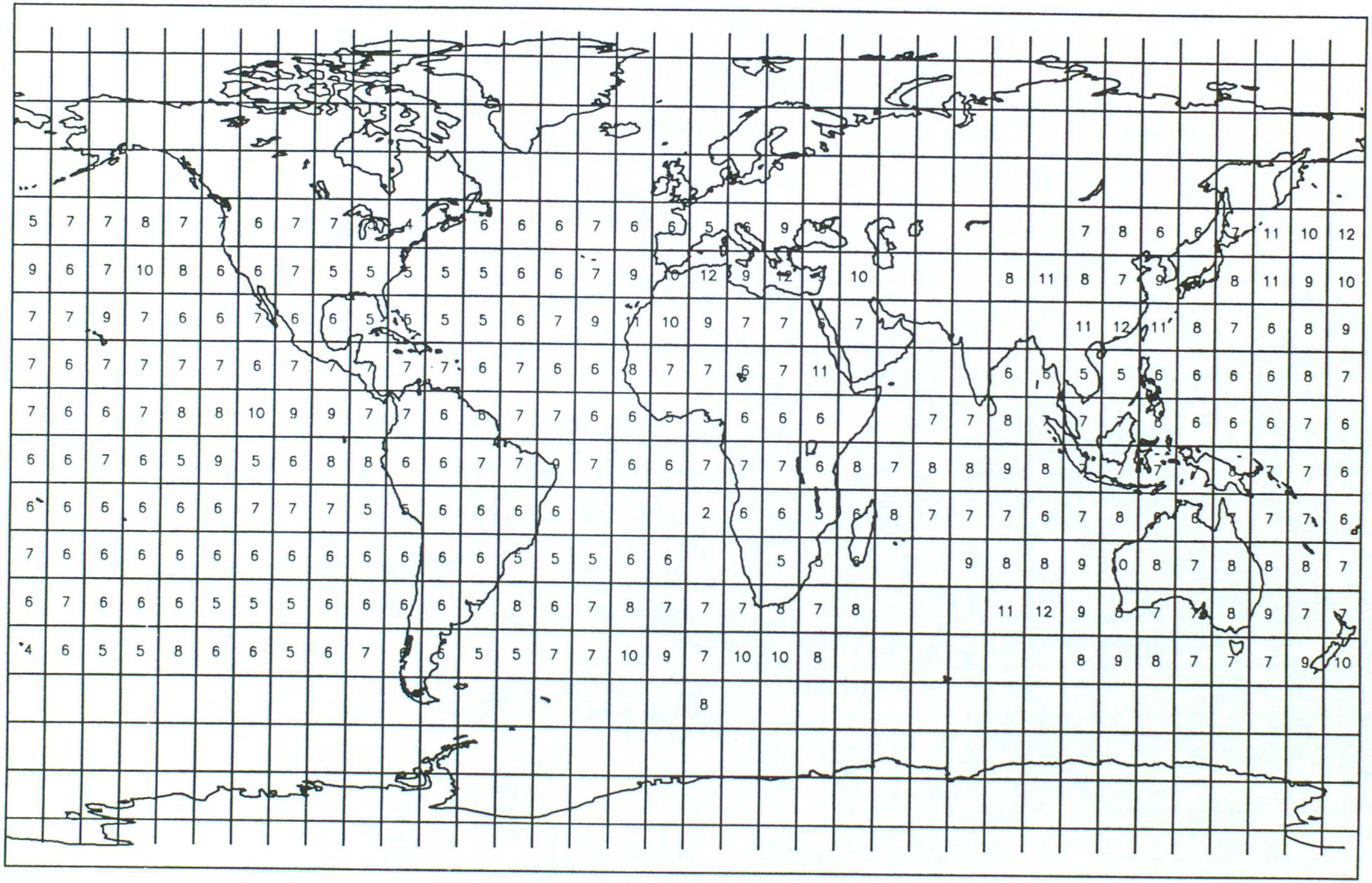
FEBRUARY 1996
ALL OBSERVATIONS
ARROWS PLOTTED WHERE MORE THAN 10 OBS ARE PRESENT



SATOBS : MEAN O-B SPEED DIFFERENCES (M/S) BETWEEN 101 AND 400 HPA FIGURE 23
FEBRUARY 1996
USING ALL OBSERVATIONS
VALUES ARE PRINTED WHERE MORE THAN 10 OBS ARE PRESENT


-.2 -1.2 -.7 -.6 -1.4 -2.0 -.5 -1.0 -.5 -.7 -2.5 -2.1 -1.8 -1.1 -2.2 -2.2 -2.1 .9 -.6 .5 .2 -2.4 -2.1 -2.4 -2.8 -3.5 -4.6
.0 -1.5 -1.8 -3.1 -3.4 -2.0 -.4 -1.0 -.3 -.2 .6 -.7 -.8 -2.5 -.7 -.3 .1 -4.1 -3.1 -2.8 -5.8 4.3 6.7 1.0 1.6 .5 -2.1 -4.1 -2.1 -.1
-.6 .5 1.7 .9 -.6 .1 -1.9 -1.9 -1.9 .5 .6 .2 .4 .3 .1 .1 -2.9 -1.4 -.4 -.5 1.9 2.6 1.2 -2.8 -5.7 -3.9 -1.9 -3.0 -.5 1.2 -1.4
-.4 1.3 .9 2.1 2.2 .9 1.2 -.5 .2 -.1 -.2 .7 1.5 3.3 1.4 1.1 .1 .5 2.4 3.2 2.4 3.0 2.3 .4 .9 .3 .8 .4 1.6 2.6 4.0 .8
-.3 -1.6 -1.5 -.2 -1.3 -.1 -1.1 -1.2 .7 .3 .2 -.1 .0 .1 -.1 -.3 1.3 1.0 1.2 1.6 .6 1.4 1.5 2.5 1.3 .1 .0 -.7 .5 1.5 2.3 1.8
.0 .2 -2.1 -1.5 .7 4.9 2.9 4.7 2.7 2.1 .8 -1.4 -1.1 -.3 .0 1.9 2.1 2.2 2.2 .2 -1.2 -.2 .3 .8 -.5 .5 2.0 -1.1 -.4 -.7 -1.3 .2 .0 .3 .6
.0 .1 -.9 -.6 -.1 1.6 3.3 3.9 4.7 1.7 1.6 -.2 -.4 .6 .9 .5 -2.1 -1.9 -1.3 .9 2.7 2.9 3.1 2.6 1.8 1.4 1.4 1.3 .9 1.1 1.0
.4 .3 -1.0 .1 .2 .0 .6 -1.5 2.5 1.3 1.6 2.2 .7 .6 .9 -.2 1.3 -.9 -.5 1.5 .0 .7 4.5 4.2 3.3 -.6 .6 .5 .9 -.5 1.1
.9 .9 1.1 .9 .6 -.5 -.5 -1.6 -1.7 -2.2 2.2 -1.9 .9 -.7 .2 .7 .6 1.4 .7 -1.2 -1.8 -1.8 1.1 3.7 4.2 2.5 1.9 1.0 .8 2.1 -.8
-.3 .0 .2 .5 -.4 .1 .1 -.3 -1.5 -.7 .6 .2 .1 -1.1 -.1 1.4 .8 -.2 -.3 -2.0 -2.0 .6 -1.0 -.6 .5 .1 .2 .0 -1.9
-.1

SATOBS : RMS O–B VECTOR DIFFERENCES (M/S) BETWEEN 101 AND 400 HPA FIGURE 24
FEBRUARY 1996
USING ALL OBSERVATIONS
VALUES ARE PRINTED WHERE MORE THAN 10 OBS ARE PRESENT



MONITORING OF SATELLITE TEMPERATURES

MONITORING CENTRE: BRACKNELL

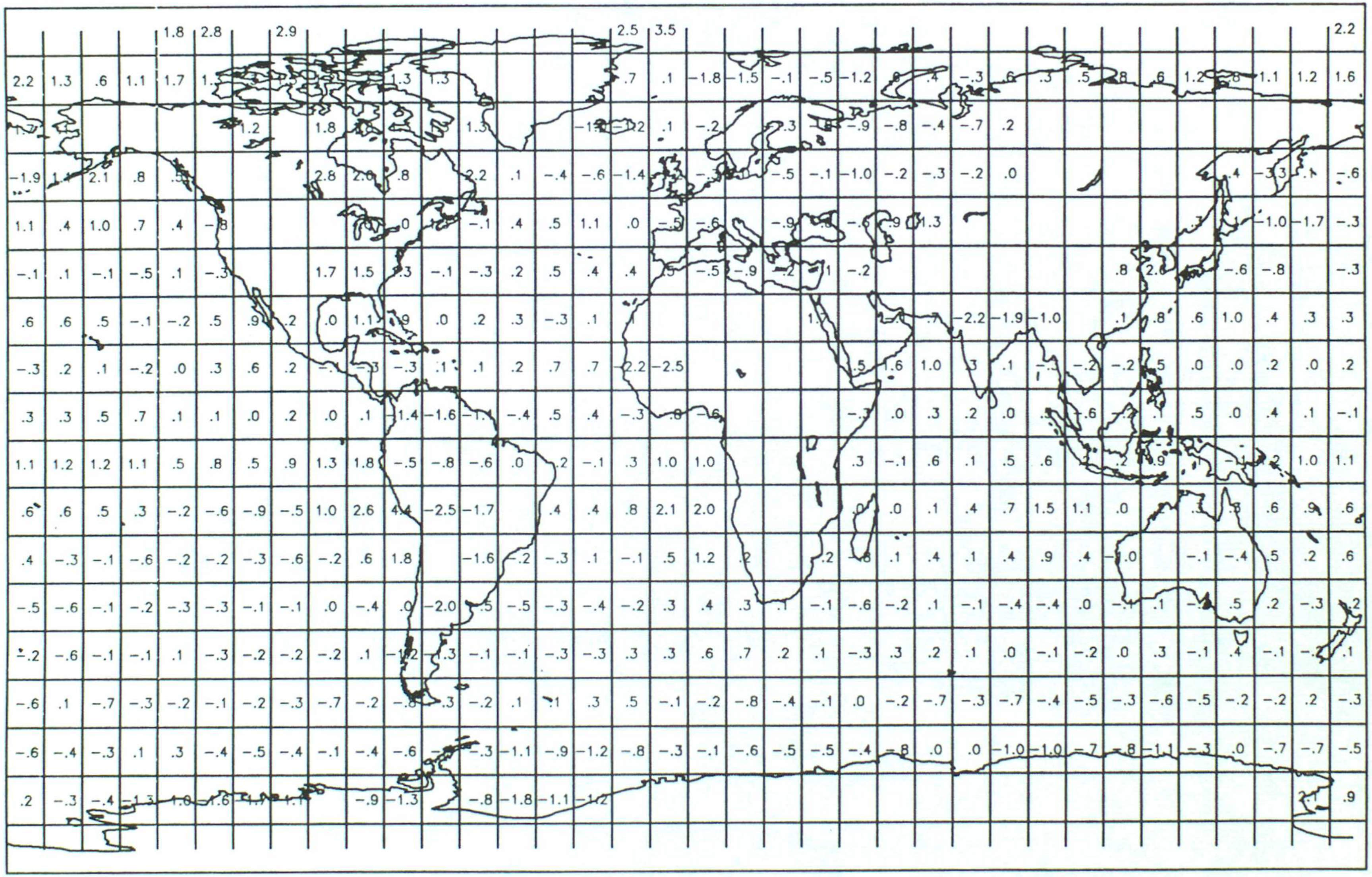
MONTH: February 1996

Monitoring procedures

Period	:One calendar month.
Data monitored	:Reports from NOAA-12, NOAA-14 500 km.
Standard of comparison	:Background field from Bracknell global model.
Selection Criteria	:All SATEM soundings where number of observations > 30.
Data Extracted	:Layer: 850 - 1000 hPa 100 - 300 hPa 30 - 50 hPa :Mean observation minus background temperature differences

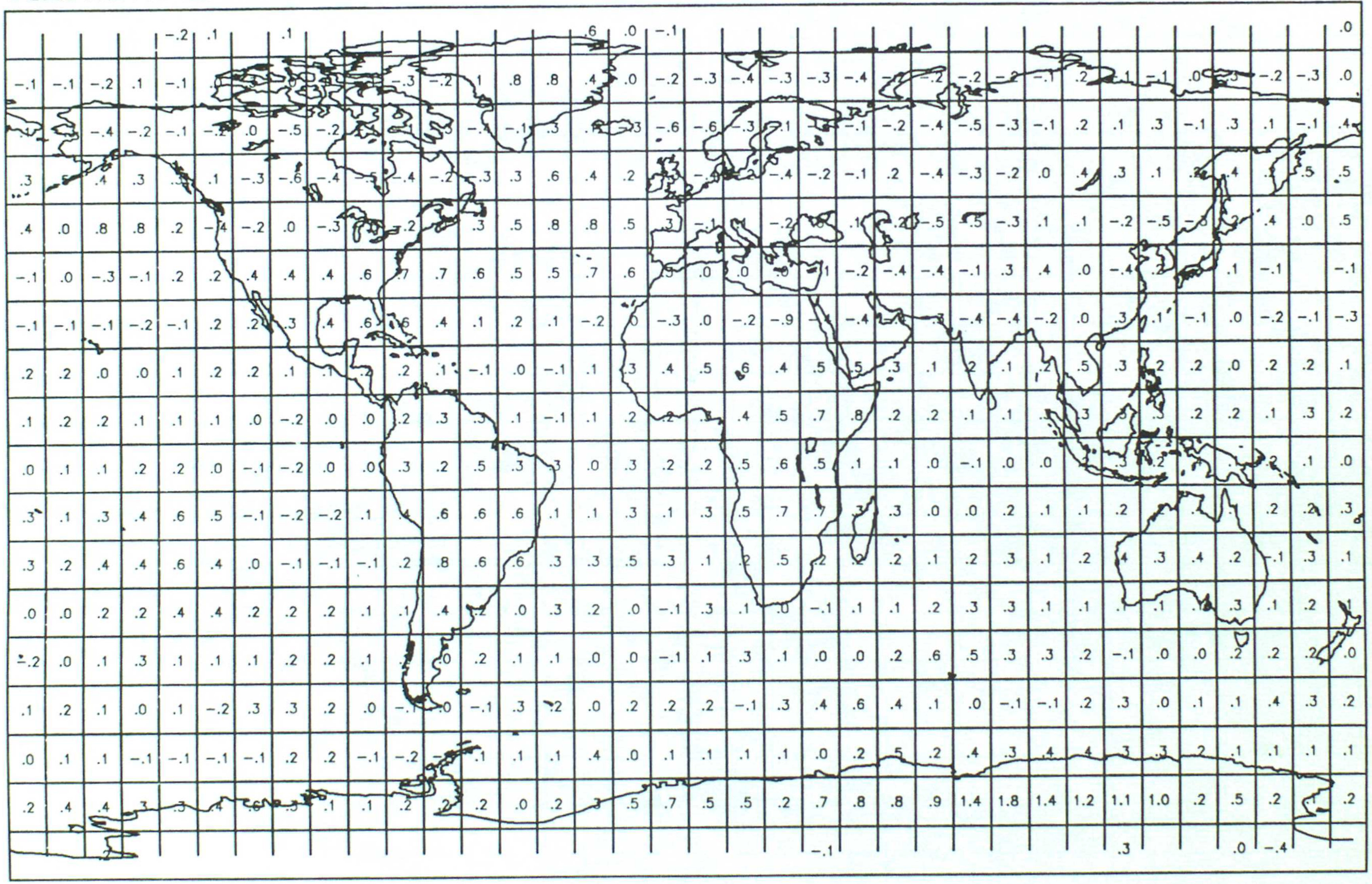
500 KM SATEMS : MEAN O–B TEMPERATURE DIFFERENCES (DEG C) : 850 TO 1000 HPA
FEBRUARY 1996
NOAA–12, USING ALL OBSERVATIONS
VALUES ARE PRINTED WHERE MORE THAN 30 OBS ARE PRESENT

FIGURE 25


1.8 2.8 2.9 2.5 3.5 2.2
2.2 1.3 .6 1.1 1.7 1.3 1.3 .7 .1 −1.8 −1.5 −.1 −.5 −1.2 .4 −.3 .6 .3 .5 .8 .6 1.2 1.1 1.2 1.6
1.2 1.8 1.3 .1 −.2 .3 −.9 −.8 −.4 −.7 .2
−1.9 2.1 .8 2.8 .8 2.2 .1 −.4 −.6 −1.4 −.5 −.1 −1.0 −.2 −.3 −.2 .0 .4 −.6
1.1 .4 1.0 .7 .4 −.1 .4 .5 1.1 .0 1.3 −1.0 −1.7 −.3
−.1 .1 −.1 −.5 .1 1.7 1.5 −.1 −.3 .2 .5 .4 .4 −.2 .8 −.6 −.8 −.3
.6 .6 .5 −.1 −.2 .5 .2 .0 .0 .2 .3 −.3 .1 −2.2 −1.9 −1.0 .1 .6 1.0 .4 .3 .3
−.3 .2 .1 −.2 .0 .3 .6 .2 −.3 .1 .1 .2 .7 .7 −2.2 −2.5 .6 1.0 .1 −.2 −.2 .0 .0 .2 .0 .2
.3 .3 .5 .7 .1 .1 .0 .2 .0 .1 −1.4 −1.6 −.4 .5 .4 −.3 .0 .3 .2 .0 .6 .5 .0 .4 .1 −.1
1.1 1.2 1.2 1.1 .5 .8 .5 .9 1.3 1.8 −.5 −.8 −.6 .0 .2 −.1 .3 1.0 1.0 .3 −.1 .6 .1 .5 .6 .2 1.0 1.1
.6 .6 .5 .3 −.2 −.6 −.9 −.5 1.0 2.6 4.4 −2.5 −1.7 .4 .4 .8 2.1 2.0 .0 .1 .4 .7 1.5 1.1 .0 .6 .6
.4 −.3 −.1 −.6 −.2 −.2 −.3 −.6 −.2 .6 1.8 −1.6 .2 −.3 .1 −.1 .5 1.2 .2 .2 .1 .4 .1 .4 .9 .4 .0 −.1 −.4 .5 .2 .6
−.5 −.6 −.1 −.2 −.3 −.3 −.1 −.1 .0 −.4 −2.0 −.5 −.3 −.4 −.2 .3 .4 .3 −.1 −.6 −.2 .1 −.1 −.4 −.4 .0 .1 .5 .2 −.3 .2
−.2 −.6 −.1 −.1 .1 −.3 −.2 −.2 −.2 .1 .3 −.1 −.1 −.3 −.3 .3 .3 .6 .7 .2 .1 −.3 .3 .2 .1 .0 −.1 −.2 .0 .3 −.1 .4 −.1 .1
−.6 .1 −.7 −.3 −.2 −.1 −.2 −.3 −.7 −.2 .3 −.2 .1 .1 .3 .5 −.1 −.2 −.8 −.4 −.1 .0 −.2 −.7 −.3 −.7 −.4 −.5 −.3 −.6 −.5 −.2 −.2 .2 −.3
−.6 −.4 −.3 .1 .3 −.4 −.5 −.4 −.1 −.4 −.6 −.3 −1.1 −.9 −1.2 −.8 −.3 −.1 −.6 −.5 −.5 −.4 .0 .0 −1.0 −1.0 .0 −.7 −.7 −.5
.2 −.3 −.4 −.9 −1.3 −.8 −1.8 −1.1 .9

500 KM SATEMS : MEAN O–B TEMPERATURE DIFFERENCES (DEG C) : 100 TO 300 HPA
FEBRUARY 1996
NOAA–12, USING ALL OBSERVATIONS
VALUES ARE PRINTED WHERE MORE THAN 30 OBS ARE PRESENT

FIGURE 26



500 KM SATEMS : MEAN O–B TEMPERATURE DIFFERENCES (DEG C) : 30 TO 50 HPA
FEBRUARY 1996
NOAA–12, USING ALL OBSERVATIONS
VALUES ARE PRINTED WHERE MORE THAN 30 OBS ARE PRESENT

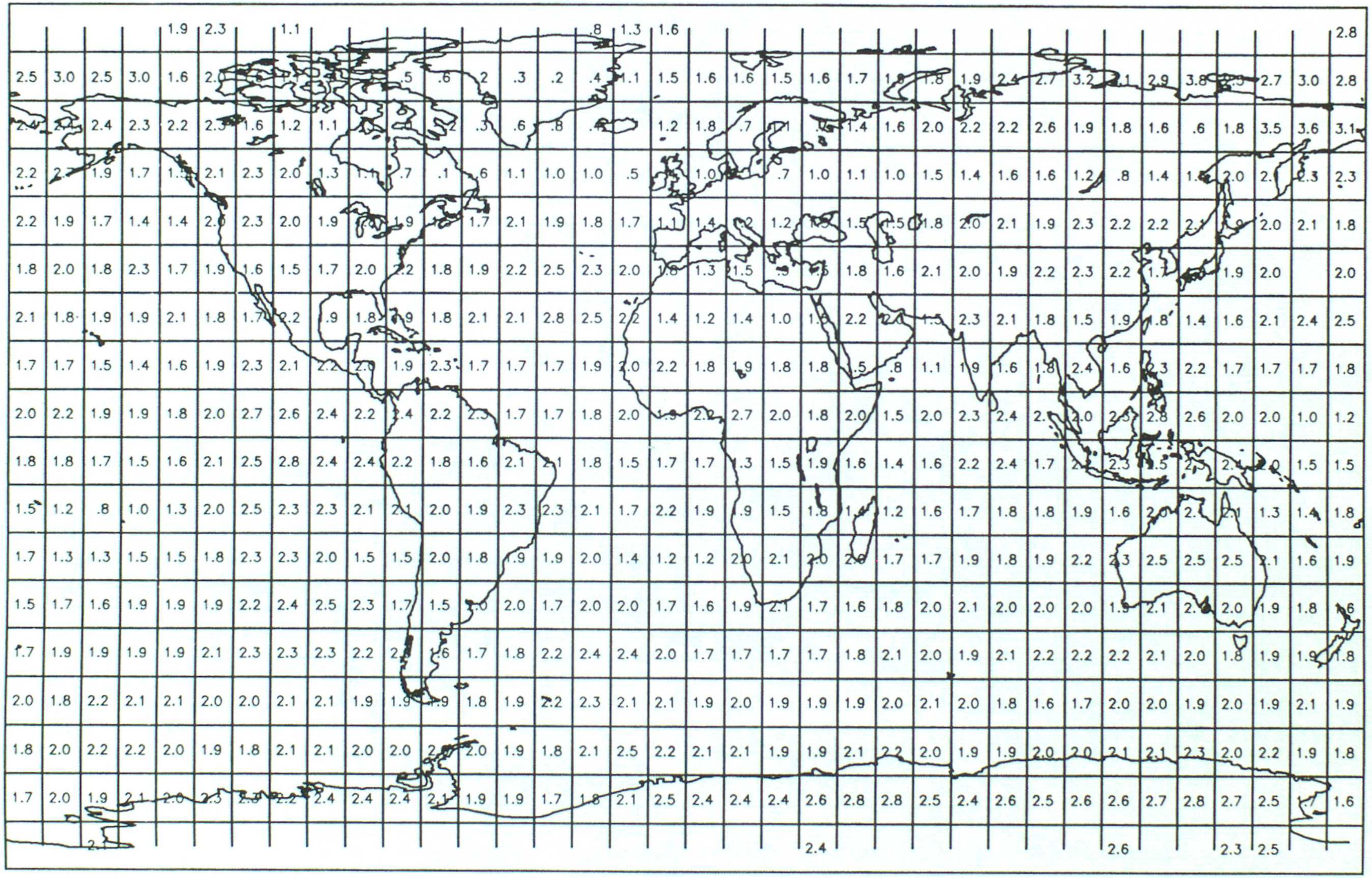
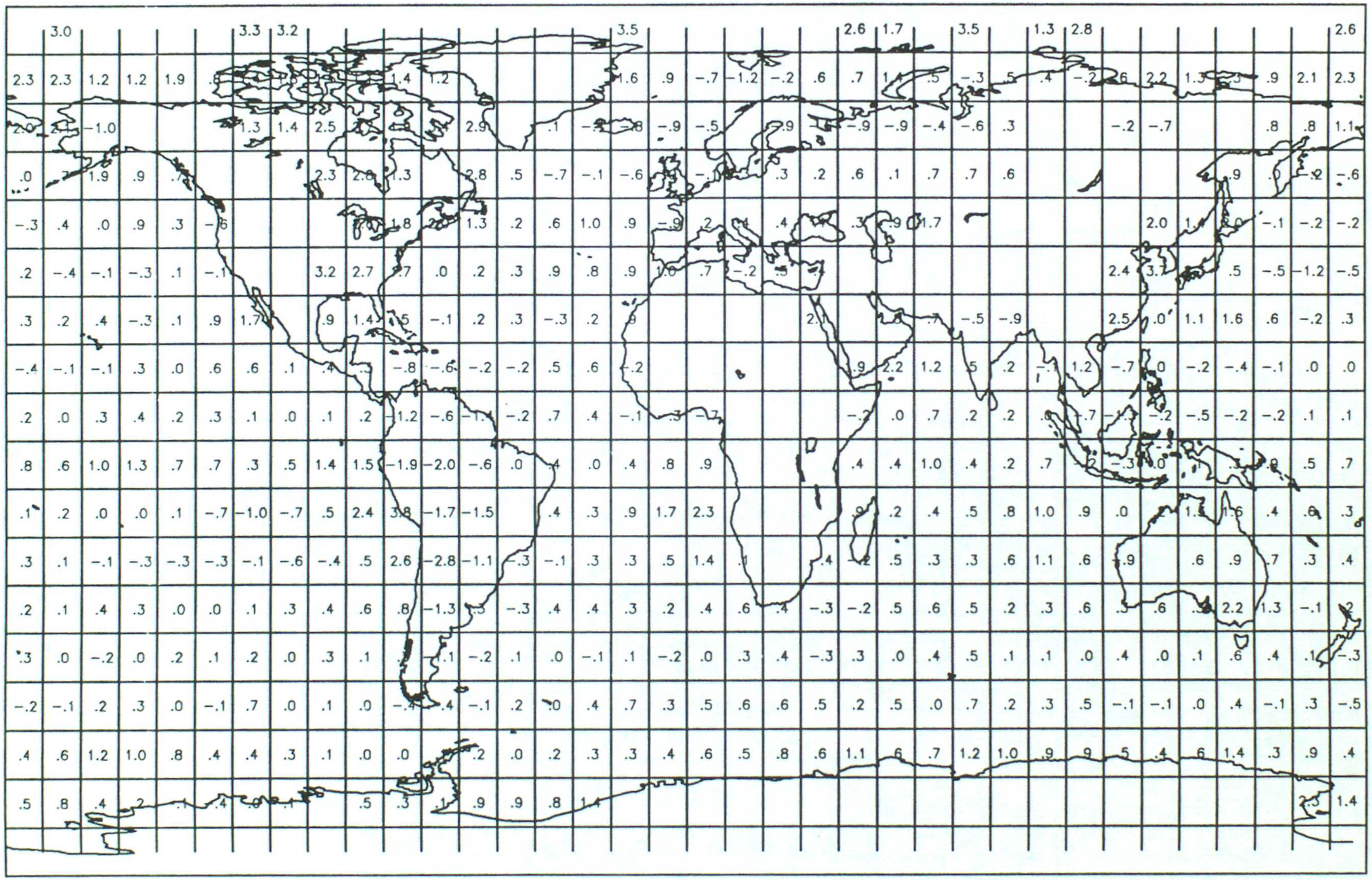

1.9 2.3 1.1 .8 1.3 1.6 2.8
2.5 3.0 2.5 3.0 1.6 2.0 .5 .6 .2 .3 .2 .4 1.1 1.5 1.6 1.6 1.5 1.6 1.7 1.8 1.8 1.9 2.4 2.7 3.2 2.1 2.9 3.8 2.7 3.0 2.8
2.4 2.4 2.4 2.3 2.2 2.3 1.6 1.2 1.1 .3 .6 .8 .4 1.2 1.8 .7 1.1 1.4 1.6 2.0 2.2 2.2 2.6 1.9 1.8 1.6 .6 1.8 3.5 3.6 3.1
2.2 2.7 1.9 1.7 1.5 2.1 2.3 2.0 1.3 1.1 .7 .1 .6 1.1 1.0 1.0 .5 1.0 .7 1.0 1.1 1.0 1.5 1.4 1.6 1.6 1.2 .8 1.4 1.6 2.0 2.3 2.3
2.2 1.9 1.7 1.4 1.4 2.0 2.3 2.0 1.9 1.9 1.7 2.1 1.9 1.8 1.7 1.1 1.4 1.2 1.5 1.5 1.8 2.0 2.1 1.9 2.3 2.2 2.2 2.1 1.9 2.0 2.1 1.8
1.8 2.0 1.8 2.3 1.7 1.9 1.6 1.5 1.7 2.0 2.2 1.8 1.9 2.2 2.5 2.3 2.0 1.8 1.3 1.5 1.8 1.6 2.1 2.0 1.9 2.2 2.3 2.2 1.7 1.9 2.0 2.0
2.1 1.8 1.9 1.9 2.1 1.8 1.7 2.2 .9 1.8 1.9 1.8 2.1 2.1 2.8 2.5 2.2 1.4 1.2 1.4 1.0 1.5 2.2 2.0 1.5 2.3 2.1 1.8 1.5 1.9 1.8 1.4 1.6 2.1 2.4 2.5
1.7 1.7 1.5 1.4 1.6 1.9 2.3 2.1 2.2 2.0 1.9 2.3 1.7 1.7 1.7 1.9 2.0 2.2 1.8 1.9 1.8 1.8 .5 .8 1.1 1.9 1.6 1.8 2.4 1.6 2.3 2.2 1.7 1.7 1.7 1.8
2.0 2.2 1.9 1.9 1.8 2.0 2.7 2.6 2.4 2.2 2.4 2.2 2.3 1.7 1.7 1.8 2.0 1.9 2.2 2.7 2.0 1.8 2.0 1.5 2.0 2.3 2.4 2.0 2.8 2.6 2.0 2.0 1.0 1.2
1.8 1.8 1.7 1.5 1.6 2.1 2.5 2.8 2.4 2.4 2.2 1.8 1.6 2.1 2.1 1.8 1.5 1.7 1.7 1.3 1.5 1.9 1.6 1.4 1.6 2.2 2.4 1.7 2.3 2.0 1.5 1.5
1.5 1.2 .8 1.0 1.3 2.0 2.5 2.3 2.3 2.1 2.1 2.0 1.9 2.3 2.3 2.1 1.7 2.2 1.9 .9 1.5 1.8 1.4 1.2 1.6 1.7 1.8 1.8 1.9 1.6 2.0 2.1 1.3 1.4 1.8
1.7 1.3 1.3 1.5 1.5 1.8 2.3 2.3 2.0 1.5 1.5 2.0 1.8 1.9 1.9 2.0 1.4 1.2 1.2 2.0 2.1 2.0 2.0 1.7 1.7 1.9 1.8 1.9 2.2 2.3 2.5 2.5 2.5 2.1 1.6 1.9
1.5 1.7 1.6 1.9 1.9 1.9 2.2 2.4 2.5 2.3 1.7 1.5 2.0 2.0 1.7 2.0 2.0 1.7 1.6 1.9 2.1 1.7 1.6 1.8 2.0 2.1 2.0 2.0 2.0 1.9 2.1 2.0 1.9 1.8 1.6
1.7 1.9 1.9 1.9 1.9 2.1 2.3 2.3 2.3 2.2 1.6 1.7 1.8 2.2 2.4 2.4 2.0 1.7 1.7 1.7 1.7 1.8 2.1 2.0 1.9 2.1 2.2 2.2 2.2 2.1 2.0 1.8 1.9 1.9 1.8
2.0 1.8 2.2 2.1 2.1 2.0 2.0 2.1 2.1 1.9 1.9 1.9 1.8 1.9 2.2 2.3 2.1 2.1 1.9 2.0 1.9 1.9 1.9 2.0 2.1 2.0 1.8 1.6 1.7 2.0 2.0 1.9 2.0 1.9 2.1 1.9
1.8 2.0 2.2 2.2 2.0 1.9 1.8 2.1 2.1 2.0 2.0 2.0 1.9 1.8 2.1 2.5 2.2 2.1 2.1 1.9 1.9 2.1 2.2 2.0 1.9 1.9 2.0 2.0 2.1 2.1 2.3 2.0 2.2 1.9 1.8
1.7 2.0 1.9 2.1 2.0 2.3 2.3 2.2 2.4 2.4 2.4 2.1 1.9 1.9 1.7 1.8 2.1 2.5 2.4 2.4 2.4 2.6 2.8 2.8 2.5 2.4 2.6 2.5 2.6 2.6 2.7 2.8 2.7 2.5 1.7 1.6
2.1 2.4 2.6 2.3 2.5

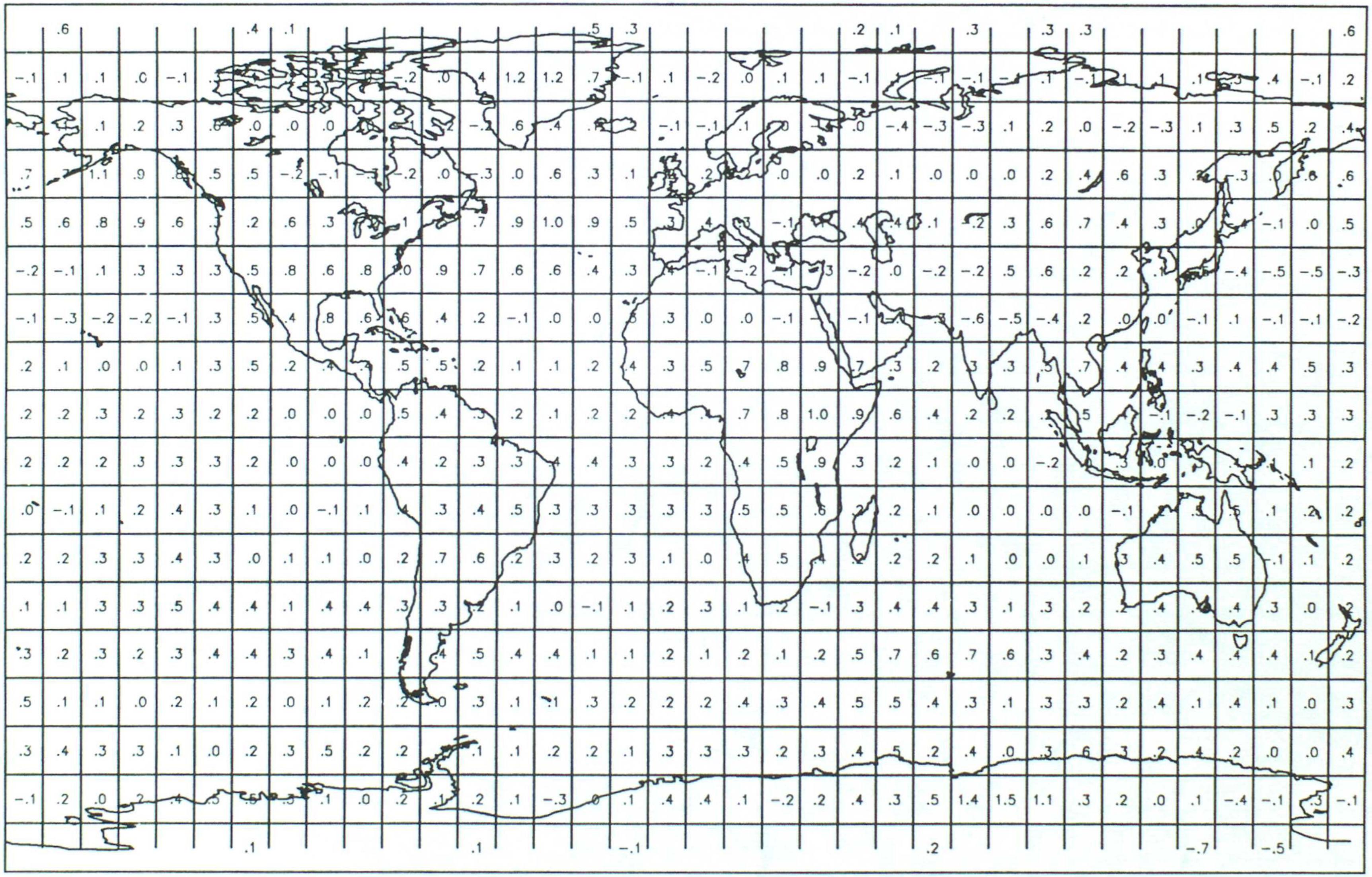
FIGURE 27

500 KM SATEMS : MEAN O–B TEMPERATURE DIFFERENCES (DEG C) : 850 TO 1000 HPA
FEBRUARY 1996
NOAA–14, USING ALL OBSERVATIONS
VALUES ARE PRINTED WHERE MORE THAN 30 OBS ARE PRESENT

FIGURE 28



500 KM SATEMS : MEAN O-B TEMPERATURE DIFFERENCES (DEG C) : 100 TO 300 HPA
FEBRUARY 1996
FIGURE 29
NCAA-14, USING ALL OBSERVATIONS
VALUES ARE PRINTED WHERE MORE THAN 30 OBS ARE PRESENT



500 KM SATEMS : MEAN O-B TEMPERATURE DIFFERENCES (DEG C) : 30 TO 50 HPA
FEBRUARY 1996
NOAA-14, USING ALL OBSERVATIONS
VALUES ARE PRINTED WHERE MORE THAN 30 OBS ARE PRESENT

FIGURE 30

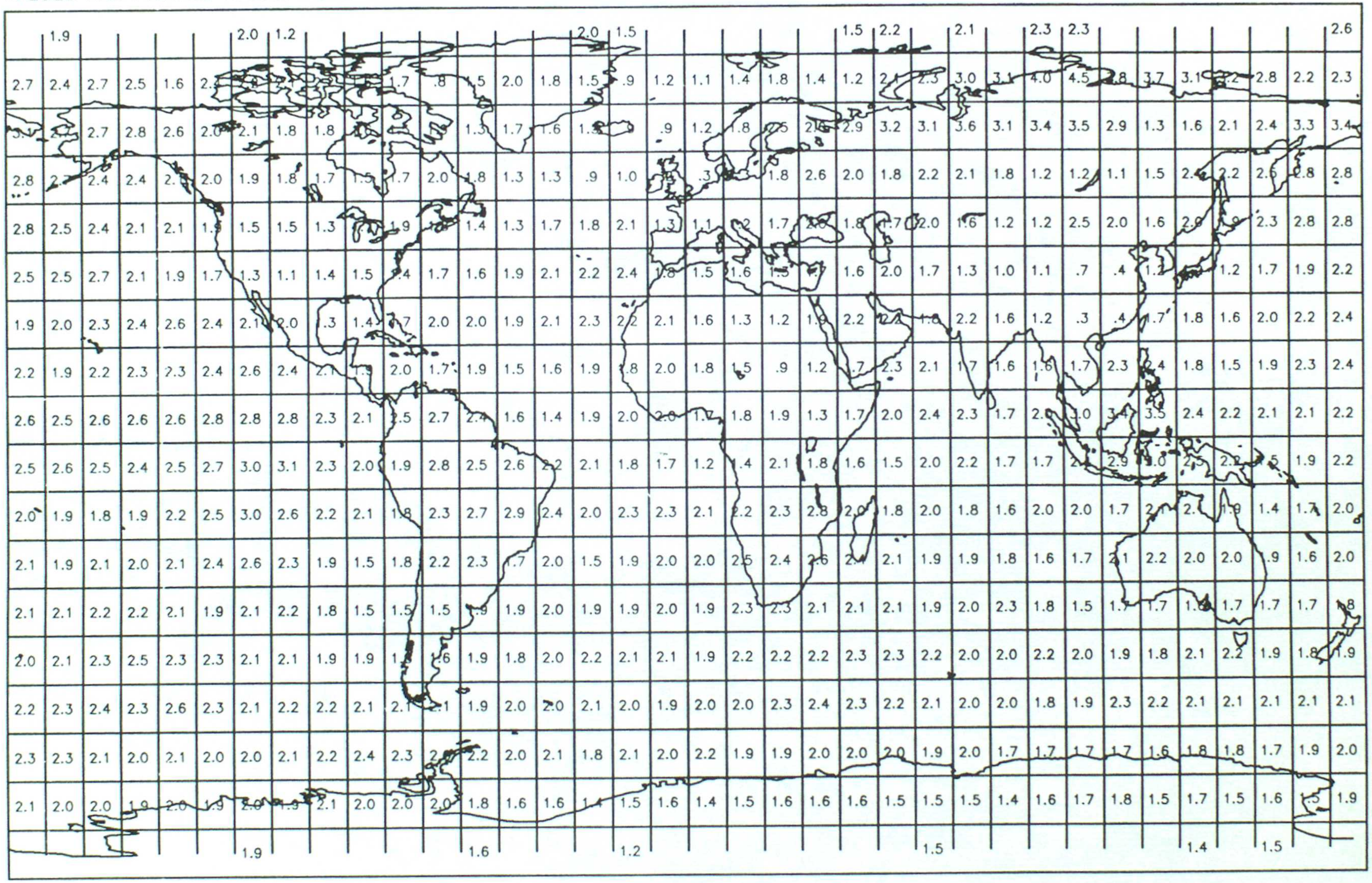

1.9 2.0 1.2 2.0 1.5 1.5 2.2 2.1 2.3 2.3 2.6
2.7 2.4 2.7 2.5 1.6 1.7 .8 1.5 2.0 1.8 1.5 .9 1.2 1.1 1.4 1.8 1.4 1.2 2.1 2.3 3.0 3.1 4.0 4.5 2.8 3.7 3.1 2.2 2.8 2.2 2.3
3.1 2.7 2.7 2.8 2.6 2.0 2.1 1.8 1.8 1.6 1.3 1.7 1.6 1.3 .9 1.2 1.8 2.5 2.6 2.9 3.2 3.1 3.6 3.1 3.4 3.5 2.9 1.3 1.6 2.1 2.4 3.3 3.4
2.8 2.7 2.4 2.4 2.0 1.9 1.8 1.7 1.5 1.7 2.0 1.8 1.3 1.3 .9 1.0 .3 1.8 2.6 2.0 1.8 2.2 2.1 1.8 1.2 1.2 1.1 1.5 2.4 2.2 2.5 2.8 2.8
2.8 2.5 2.4 2.1 2.1 1.9 1.5 1.5 1.3 1.9 1.4 1.3 1.7 1.8 2.1 1.3 1.1 1.2 1.7 2.0 1.8 1.7 2.0 1.6 1.2 1.2 2.5 2.0 1.6 2.3 2.8 2.8
2.5 2.5 2.7 2.1 1.9 1.7 1.3 1.1 1.4 1.5 1.4 1.7 1.6 1.9 2.1 2.2 2.4 1.8 1.5 1.6 1.5 1.6 2.0 1.7 1.3 1.0 1.1 .7 .4 1.2 1.2 1.7 1.9 2.2
1.9 2.0 2.3 2.4 2.6 2.4 2.1 2.0 1.3 1.4 1.7 2.0 2.0 1.9 2.1 2.3 2.2 2.1 1.6 1.3 1.2 1.9 2.2 2.2 1.8 2.2 1.6 1.2 .3 .4 1.7 1.8 1.6 2.0 2.2 2.4
2.2 1.9 2.2 2.3 2.3 2.4 2.6 2.4 2.1 1.9 2.0 1.7 1.9 1.5 1.6 1.9 1.8 2.0 1.8 1.5 .9 1.2 1.7 2.3 2.1 1.7 1.6 1.6 1.7 2.3 2.4 1.8 1.5 1.9 2.3 2.4
2.6 2.5 2.6 2.6 2.6 2.8 2.8 2.8 2.3 2.1 2.5 2.7 2.4 1.6 1.4 1.9 2.0 2.0 1.7 1.8 1.9 1.3 1.7 2.0 2.4 2.3 1.7 3.0 3.4 3.5 2.4 2.2 2.1 2.1 2.2
2.5 2.6 2.5 2.4 2.5 2.7 3.0 3.1 2.3 2.0 1.9 2.8 2.5 2.6 2.2 2.1 1.8 1.7 1.2 1.4 2.1 1.8 1.6 1.5 2.0 2.2 1.7 1.7 2.9 3.0 2.5 2.2 1.5 1.9 2.2
2.0 1.9 1.8 1.9 2.2 2.5 3.0 2.6 2.2 2.1 1.8 2.3 2.7 2.9 2.4 2.0 2.3 2.3 2.1 2.2 2.3 2.8 2.0 1.8 2.0 1.8 1.6 2.0 2.0 1.7 1.9 1.4 1.7 2.0
2.1 1.9 2.1 2.0 2.1 2.4 2.6 2.3 1.9 1.5 1.8 2.2 2.3 1.7 2.0 1.5 1.9 2.0 2.0 2.5 2.4 2.6 2.4 2.1 1.9 1.9 1.8 1.6 1.7 2.1 2.2 2.0 2.0 1.9 1.6 2.0
2.1 2.1 2.2 2.2 2.1 1.9 2.1 2.2 1.8 1.5 1.5 1.5 1.9 1.9 2.0 1.9 1.9 2.0 1.9 2.3 2.3 2.1 2.1 2.1 1.9 2.0 2.3 1.8 1.5 1.7 1.7 1.8 1.7 1.7 1.7 1.8
2.0 2.1 2.3 2.5 2.3 2.3 2.1 2.1 1.9 1.9 1.8 1.6 1.9 1.8 2.0 2.2 2.1 2.1 1.9 2.2 2.2 2.2 2.3 2.3 2.2 2.0 2.0 2.2 2.0 1.9 1.8 2.1 2.2 1.9 1.8 1.9
2.2 2.3 2.4 2.3 2.6 2.3 2.1 2.2 2.2 2.1 2.1 2.1 1.9 2.0 2.0 2.1 2.0 1.9 2.0 2.0 2.3 2.4 2.3 2.2 2.1 2.0 2.0 1.8 1.9 2.3 2.2 2.1 2.1 2.1 2.1 2.1
2.3 2.3 2.1 2.0 2.1 2.0 2.0 2.1 2.2 2.4 2.3 2.2 2.0 2.1 1.8 2.1 2.0 2.2 1.9 1.9 2.0 2.0 2.0 1.9 2.0 1.7 1.7 1.7 1.7 1.6 1.8 1.8 1.7 1.9 2.0
2.1 2.0 2.0 1.9 2.0 1.9 2.0 1.9 2.1 2.0 2.0 2.0 1.8 1.6 1.6 1.4 1.5 1.6 1.4 1.5 1.6 1.6 1.6 1.5 1.5 1.5 1.4 1.6 1.7 1.8 1.5 1.7 1.5 1.6 1.5 1.9
1.9 1.6 1.2 1.5 1.4 1.5

TABLE 8

MONTHLY MONITORING OF MARINE SURFACE OBSERVATIONS (COSNA)
DATA TYPE:- DRIFTER
MONITORING CENTRE: BRACKNELL
MONTH: February 1996

Monitoring procedures

Period :One calendar month.

Data monitored :Reports from each unique identifier for drifting buoy.

Area monitored :10°N - 80°N, 85°W - 0°W

Standard of comparison :Background field from Bracknell global model.

Position :Average latitude and longitude for period.

Observation times :All hours combined.

Elements monitored :Mean sea-level pressure (hPa)
:Wind speed ($m\ s^{-1}$)
:Wind direction (degrees)

Parameters monitored

:NOBS :Number of observations received excluding duplicates.

:NGE :Number of observations with gross errors.

:PGE :Percentage of observations with gross errors.

:SD :SD of difference of observations from background values excluding those with gross errors.

:BIAS :Mean difference of observations from background values excluding those with gross errors.
N.B. A positive bias indicates the observation is veered to the background

:RMS :Root Mean Square difference of observations from background values excluding those with gross errors

GROSS ERROR LIMITS :15 hPa (pressure)
:25 $m\ s^{-1}$ (Vector Wind)

N.B. Observations of wind direction are only included in the wind direction statistics if the observed OR background wind speed > 5 $m\ s^{-1}$

IDENTIFIER	LAT.	LONG.	HOUR	ELEM	LEVEL	NOBS	NGE	PGE	SD	BIAS	RMS
MEAN SEA LEVEL PRESSURE											
01683	46.3	-53.3	ALL	MSLP	SUR	1	0	0	0.0	-0.8	0.8
25565	55.8	-34.2	ALL	MSLP	SUR	546	0	0	1.8	-0.1	1.8
29602	30.0	-46.7	ALL	MSLP	SUR	14	0	0	0.9	-1.2	1.5
39602	22.6	-70.9	ALL	MSLP	SUR	16	0	0	1.8	-1.1	2.1
40504	10.4	-17.2	ALL	MSLP	SUR	1	0	0	0.0	-1.8	1.8
40703	14.4	-13.3	ALL	MSLP	SUR	2	0	0	0.4	-0.8	1.0
40705	19.8	-17.3	ALL	MSLP	SUR	2	0	0	0.8	-1.1	1.4
40803	35.2	-13.3	ALL	MSLP	SUR	2	0	0	0.4	-0.5	0.6
40805	34.8	-13.6	ALL	MSLP	SUR	1	0	0	0.0	-0.3	0.3
40806	47.2	-6.9	ALL	MSLP	SUR	1	0	0	0.0	-0.7	0.7
40808	32.9	-14.2	ALL	MSLP	SUR	1	0	0	0.0	-1.0	1.0
40905	16.6	-17.7	ALL	MSLP	SUR	1	0	0	0.0	-1.7	1.7
40906	41.2	-10.9	ALL	MSLP	SUR	1	0	0	0.0	-1.4	1.4
40908	33.3	-13.2	ALL	MSLP	SUR	4	0	0	0.9	-0.8	1.2
40909	43.4	-9.7	ALL	MSLP	SUR	2	0	0	0.0	-1.2	1.3
41526	33.8	-62.2	ALL	MSLP	SUR	223	0	0	1.1	-0.1	1.1
41529	21.3	-71.7	ALL	MSLP	SUR	188	0	0	1.0	0.1	1.0
41585	37.8	-62.6	ALL	MSLP	SUR	376	0	0	1.3	-0.1	1.3
41587	27.5	-76.8	ALL	MSLP	SUR	2	0	0	0.8	-1.4	1.6
44613	46.3	-14.0	ALL	MSLP	SUR	1235	5	0	1.3	-0.3	1.3
44616	59.9	-26.9	ALL	MSLP	SUR	1640	4	0	1.6	0.7	1.8
44684	47.8	-63.4	ALL	MSLP	SUR	15	0	0	1.9	-1.4	2.3
44690	46.3	-64.0	ALL	MSLP	SUR	16	0	0	2.1	-3.6	4.1
44727	44.0	-23.4	ALL	MSLP	SUR	1129	2	0	1.1	-0.2	1.1
44728	57.6	-28.7	ALL	MSLP	SUR	1383	5	0	1.6	0.1	1.6
44760	26.5	-30.3	ALL	MSLP	SUR	355	0	0	1.2	-0.1	1.2
44761	54.7	-46.4	ALL	MSLP	SUR	857	6	1	2.6	-0.2	2.6
44763	55.0	-35.9	ALL	MSLP	SUR	1540	1	0	1.7	0.0	1.7
44765	55.9	-27.3	ALL	MSLP	SUR	1450	6	0	1.6	-0.4	1.6
44767	53.9	-40.9	ALL	MSLP	SUR	1047	3	0	1.7	-0.3	1.7
44768	59.4	-30.7	ALL	MSLP	SUR	1322	52	4	1.8	0.1	1.8
44769	53.5	-23.2	ALL	MSLP	SUR	1528	2	0	2.2	-0.1	2.2
44770	28.6	-38.5	ALL	MSLP	SUR	583	1	0	1.0	0.1	1.0
44773	50.9	-22.4	ALL	MSLP	SUR	993	11	1	2.3	-0.1	2.3
44774	52.0	-41.6	ALL	MSLP	SUR	1362	3	0	1.6	-0.1	1.6
44777	27.0	-30.5	ALL	MSLP	SUR	472	45	10	4.5	-7.3	8.6
49602	36.4	-80.8	ALL	MSLP	SUR	16	0	0	1.2	-0.8	1.4
62501	52.1	-21.4	ALL	MSLP	SUR	589	1	0	1.8	0.4	1.9
62503	44.6	-17.5	ALL	MSLP	SUR	521	0	0	1.2	0.0	1.2
62504	46.1	-14.4	ALL	MSLP	SUR	531	0	0	1.2	0.0	1.2
62505	46.8	-19.1	ALL	MSLP	SUR	169	0	0	1.9	0.0	1.9
62506	49.5	-19.9	ALL	MSLP	SUR	117	8	7	4.2	-1.7	4.6
62507	47.5	-17.9	ALL	MSLP	SUR	220	88	40	6.2	1.3	6.3
62508	50.0	-18.9	ALL	MSLP	SUR	218	0	0	1.1	0.6	1.3
62509	46.9	-19.3	ALL	MSLP	SUR	84	0	0	1.0	0.4	1.1
62510	46.2	-19.2	ALL	MSLP	SUR	206	0	0	1.0	0.5	1.1
62511	47.4	-18.4	ALL	MSLP	SUR	168	0	0	1.0	0.3	1.1
62512	44.9	-19.3	ALL	MSLP	SUR	193	0	0	1.0	0.8	1.2
62518	42.0	-10.4	ALL	MSLP	SUR	152	0	0	1.2	-0.5	1.3
62694	61.8	-37.5	ALL	MSLP	SUR	1646	62	4	2.4	-0.5	2.4
63665	67.8	-26.2	ALL	MSLP	SUR	557	1	0	2.7	-1.0	2.9
65594	58.1	-37.0	ALL	MSLP	SUR	1604	2	0	1.9	0.0	1.9
WIND SPEED											
01683	46.3	-53.3	ALL	SPEED	SUR	1	0	0	0.0	0.9	0.9
29602	30.0	-46.7	ALL	SPEED	SUR	13	0	0	3.7	0.5	3.7
39602	22.6	-70.9	ALL	SPEED	SUR	14	0	0	2.8	1.6	3.3
40504	10.4	-17.2	ALL	SPEED	SUR	1	0	0	0.0	2.5	2.5
40703	14.4	-13.3	ALL	SPEED	SUR	2	0	0	6.8	7.0	9.7

IDENTIFIER	LAT.	LONG.	HOUR	ELEM	LEVEL	NOBS	NGE	PGE	SD	BIAS	RMS
WIND SPEED											
40705	19.8	-17.3	ALL	SPEED	SUR	2	0	0	2.2	1.7	2.8
40803	35.2	-13.3	ALL	SPEED	SUR	2	0	0	2.5	-0.2	2.5
40805	34.8	-13.6	ALL	SPEED	SUR	1	0	0	0.0	3.5	3.5
40806	47.2	-6.9	ALL	SPEED	SUR	1	0	0	0.0	1.4	1.4
40808	32.9	-14.2	ALL	SPEED	SUR	1	0	0	0.0	-1.0	1.0
40905	16.6	-17.7	ALL	SPEED	SUR	1	0	0	0.0	0.0	0.0
40906	41.2	-10.9	ALL	SPEED	SUR	1	0	0	0.0	2.8	2.8
40908	33.3	-13.2	ALL	SPEED	SUR	3	0	0	0.8	1.6	1.8
40909	43.4	-9.7	ALL	SPEED	SUR	2	0	0	0.9	3.5	3.7
41526	33.8	-62.2	ALL	SPEED	SUR	221	0	0	2.7	-3.6	4.5
41529	21.3	-71.7	ALL	SPEED	SUR	181	0	0	1.7	-1.1	2.0
41585	37.8	-62.6	ALL	SPEED	SUR	92	0	0	3.4	-1.5	3.7
44613	46.3	-14.0	ALL	SPEED	SUR	1214	4	0	2.7	-2.1	3.5
44616	59.9	-26.9	ALL	SPEED	SUR	35	0	0	6.3	-14.2	15.5
44728	57.6	-28.7	ALL	SPEED	SUR	2	0	0	0.0	-17.3	17.3
44763	55.0	-35.9	ALL	SPEED	SUR	1	0	0	0.0	13.5	13.5
44768	59.4	-30.7	ALL	SPEED	SUR	2	2	100	0.0	0.0	0.0
49602	36.4	-80.8	ALL	SPEED	SUR	15	0	0	4.1	3.0	5.0
62501	52.1	-21.4	ALL	SPEED	SUR	287	0	0	2.3	0.3	2.4
62505	46.8	-19.1	ALL	SPEED	SUR	140	0	0	3.9	9.5	10.3
62506	49.5	-19.9	ALL	SPEED	SUR	144	0	0	2.7	-6.7	7.3
62518	42.0	-10.4	ALL	SPEED	SUR	95	0	0	1.7	-0.3	1.8
WIND DIRECTION											
01683	46.3	-53.3	ALL	DIRN.	SUR	1	0	0	0.0	1.9	1.9
29602	30.0	-46.7	ALL	DIRN.	SUR	10	0	0	17.1	15.0	22.8
39602	22.6	-70.9	ALL	DIRN.	SUR	13	0	0	51.1	-1.5	51.2
40504	10.4	-17.2	ALL	DIRN.	SUR	1	0	0	0.0	11.6	11.6
40703	14.4	-13.3	ALL	DIRN.	SUR	1	0	0	0.0	-167.8	167.8
40705	19.8	-17.3	ALL	DIRN.	SUR	1	0	0	0.0	12.7	12.7
40803	35.2	-13.3	ALL	DIRN.	SUR	2	0	0	11.5	-9.6	15.0
40805	34.8	-13.6	ALL	DIRN.	SUR	1	0	0	0.0	-18.5	18.5
40806	47.2	-6.9	ALL	DIRN.	SUR	1	0	0	0.0	-31.6	31.6
40808	32.9	-14.2	ALL	DIRN.	SUR	1	0	0	0.0	-40.0	40.0
40905	16.6	-17.7	ALL	DIRN.	SUR	1	0	0	0.0	-25.1	25.1
40906	41.2	-10.9	ALL	DIRN.	SUR	1	0	0	0.0	-27.9	27.9
40908	33.3	-13.2	ALL	DIRN.	SUR	3	0	0	5.0	-13.2	14.1
40909	43.4	-9.7	ALL	DIRN.	SUR	2	0	0	6.1	1.5	6.3
41526	33.8	-62.2	ALL	DIRN.	SUR	210	0	0	14.5	5.7	15.6
41529	21.3	-71.7	ALL	DIRN.	SUR	138	0	0	15.0	19.1	24.3
41585	37.8	-62.6	ALL	DIRN.	SUR	92	0	0	32.0	19.7	37.6
44613	46.3	-14.0	ALL	DIRN.	SUR	1076	4	0	22.6	-1.1	22.7
44616	59.9	-26.9	ALL	DIRN.	SUR	35	0	0	37.8	16.5	41.3
44728	57.6	-28.7	ALL	DIRN.	SUR	2	0	0	0.0	-147.9	147.9
44763	55.0	-35.9	ALL	DIRN.	SUR	1	0	0	0.0	14.4	14.4
44768	59.4	-30.7	ALL	DIRN.	SUR	2	2	100	0.0	0.0	0.0
49602	36.4	-80.8	ALL	DIRN.	SUR	13	0	0	29.1	-1.5	29.1
62501	52.1	-21.4	ALL	DIRN.	SUR	276	0	0	23.4	-9.6	25.3
62505	46.8	-19.1	ALL	DIRN.	SUR	136	0	0	14.6	-28.2	31.7
62506	49.5	-19.9	ALL	DIRN.	SUR	121	0	0	12.1	25.6	28.4
62518	42.0	-10.4	ALL	DIRN.	SUR	83	0	0	23.3	0.6	23.3

TABLE 9

MONTHLY MONITORING OF AIRCRAFT OBSERVATIONS (COSNA)
MONITORING CENTRE: BRACKNELL
MONTH: February 1996

Monitoring procedures:

Period		:One calendar month.
Data monitored		:Statistics for each airline carrier.
Area monitored		:40°N - 70°N, 60°W - 0°W.
Standard of comparison		:Background field from Bracknell global model.
Observation times		:All hours combined.
Level(s) monitored		:300.0 - 150.0 hPa
Elements monitored		:TEMP in °C ; WIND in m s^{-1}
Parameters monitored	:N REP.	:Number of observations received excluding duplicates.
	:PG	:Percentage of observations with gross errors.
	:PR	:Percentage of observations rejected by quality control including rejections from the duplicate check.
	:PC	:Percentage of observations with calm winds.
	:RMS	:Root Mean Square difference of observations from background values excluding those with gross errors in Temperature & vector wind.
	:BIAS	:Mean difference of observations from background values excluding those with gross errors in Temperature & vector wind.
GROSS ERROR LIMITS	:10.0 °C ; 60 m s^{-1} Vector Wind	
SELECTION CRITERIA	:N REP $\geq$ 20	

		TEMPERATURE						WIND			
IDENT.	N.REP.	PG	PR	RMS	BIAS	N.REP.	PG	PR	PC	RMS	BIAS
AAL	2967	0	1	1.7	-0.2	2977	0	1	0	8.2	1.0
AAN	98	1	7	1.9	-0.6	94	0	7	0	8.8	0.7
ACA	816	0	2	2.0	-0.2	835	0	1	0	8.3	1.0
AEA	393	3	100	3.2	0.2	389	0	6	0	9.9	1.1
AEL	584	1	3	1.9	-0.1	586	0	4	0	8.5	1.0
AFL	125	1	100	3.1	1.5	121	1	12	1	11.6	-0.1
AFR	796	0	5	1.9	-0.3	813	0	5	0	8.0	0.9
AIC	30	0	3	2.3	-0.2	30	0	0	0	12.2	1.1
AIH	109	0	3	1.5	0.2	110	0	3	0	9.7	0.5
AMX	102	0	2	1.5	-0.5	104	0	2	0	8.1	1.7
AMY	98	1	3	1.7	-0.4	98	0	6	0	12.1	0.6
ANZ	171	0	1	1.9	-1.1	171	1	2	0	7.6	-0.1
AOM	236	0	2	2.0	0.9	239	0	2	0	8.4	0.9
AUA	89	2	6	1.5	-0.6	88	0	8	0	6.8	1.1
AVA	91	2	5	2.3	-0.4	94	0	3	1	9.4	0.6
AZA	371	0	4	2.0	0.3	380	1	4	0	8.6	1.3
BAL	149	1	21	2.1	-0.2	161	0	21	1	8.7	0.9
BAW	1206	1	4	1.9	-0.2	1224	0	4	0	8.3	1.3
BBB	20	0	5	1.5	-0.8	20	0	5	0	7.9	-0.2
BBC	24	0	25	1.1	0.0	23	0	26	0	10.1	0.4
BWA	96	1	6	2.6	1.9	101	0	3	0	10.2	1.3
CDN	634	0	1	1.8	0.4	637	0	2	0	8.7	0.4
CFG	564	1	2	2.1	-0.8	575	0	2	0	8.7	1.0
CKS	30	0	27	1.8	0.5	31	0	29	0	7.2	0.4
CKT	30	0	10	1.5	0.6	34	0	12	0	8.8	0.8
CLX	112	0	1	1.8	-0.6	114	0	3	0	10.9	-0.7
COA	435	1	2	1.8	0.6	434	0	3	0	8.8	0.8
CRL	197	1	2	2.1	0.3	201	0	2	0	10.1	2.1
CTM	73	0	22	2.9	-1.8	75	0	21	0	9.1	1.9
CUB	187	2	100	2.4	0.9	189	0	100	0	11.3	1.0
DAF	21	0	0	3.3	-2.2	21	0	0	0	8.4	0.3
DAL	1800	1	2	1.8	0.4	1812	0	2	0	8.2	0.7
DHL	475	1	100	3.3	-0.8	474	0	3	0	9.2	0.5
DLH	1947	0	8	2.2	0.6	1973	0	9	1	8.3	1.2
DOA	91	0	20	1.9	0.7	94	1	24	0	8.4	0.8
EIA	42	0	14	3.3	0.5	43	0	14	2	7.6	0.5
ELY	115	0	7	1.5	-0.1	117	0	9	0	9.9	0.4
EWW	120	6	100	2.8	1.2	122	2	100	2	15.9	2.1
FDX	562	0	2	1.9	0.7	568	0	4	0	9.1	1.1
FIN	399	0	3	2.1	0.5	397	0	3	0	9.1	1.3
GAF	57	0	2	1.7	0.5	56	0	5	2	7.6	-0.6
GTI	80	1	0	2.1	-0.2	79	0	4	0	11.0	0.1
HLF	66	0	3	1.6	-0.6	64	0	5	0	8.4	1.3
IBE	840	1	22	2.4	-0.1	845	0	22	0	8.8	0.7
ICE	372	0	1	1.7	-0.1	370	1	1	0	8.5	1.1
KLM	1531	0	2	1.8	0.1	1554	0	2	0	8.1	1.1
LDA	135	1	11	2.3	-1.4	143	0	13	0	9.2	1.1
LDI	147	1	3	2.5	-1.6	146	0	5	1	8.5	1.6
LIB	159	1	3	1.6	0.0	161	1	4	0	7.9	1.0
LOT	158	0	2	2.0	-0.7	158	0	3	0	8.5	0.6
LTU	407	0	3	1.6	0.3	406	0	3	0	8.1	1.4
MPH	484	1	1	1.7	-0.5	486	0	1	0	8.7	0.9
NWA	1882	1	1	1.9	1.0	1933	0	1	0	8.3	0.8
OAL	37	0	0	2.4	2.0	37	0	0	0	6.1	0.2
RAF	23	0	0	1.3	0.5	23	0	0	0	5.6	0.2
RJA	48	2	6	1.7	0.7	48	0	6	0	9.1	2.2
RRR	94	3	23	2.5	0.0	95	0	21	0	8.3	2.2
SAB	41	0	2	2.2	0.1	41	0	0	0	6.3	1.1
SAS	892	1	1	1.8	-0.2	881	0	1	0	8.8	1.0

		TEMPERATURE					WIND				
IDENT.	N.REP.	PG	PR	RMS	BIAS	N.REP.	PG	PR	PC	RMS	BIAS
SIA	100	1	6	2.1	-1.1	100	0	3	0	7.2	-0.1
SPP	33	0	27	2.1	-0.8	31	0	19	0	9.4	-1.4
SVA	122	2	1	1.7	1.0	129	0	1	1	7.0	0.7
SWR	142	4	6	2.0	0.5	145	0	4	1	8.5	0.7
TAP	201	0	3	2.0	-0.7	200	0	4	0	8.4	1.1
TEJ	67	4	24	2.3	0.5	66	0	26	0	9.4	-1.4
TOW	61	0	3	2.1	-0.7	60	0	2	0	8.5	0.7
TWA	951	1	3	2.0	0.0	943	0	2	0	8.6	1.2
UAL	1247	0	2	2.4	-0.7	1258	0	1	0	8.3	0.7
ULE	106	1	5	1.5	0.4	107	0	5	0	9.9	0.6
UPS	536	1	18	1.6	0.2	545	0	18	1	8.1	1.5
USA	96	0	0	1.6	-0.7	97	0	1	0	8.5	1.3
VIA	108	0	6	2.0	1.2	108	0	8	1	8.7	-0.8
VIR	145	0	3	1.9	0.2	154	0	5	0	11.3	2.7
WOA	72	0	10	2.3	0.8	71	0	8	0	9.2	2.0
BA	7480	0	17	1.6	0.4	7477	0	34	0	7.3	1.1
KL	3257	0	18	1.6	0.4	3256	0	18	0	7.7	1.3
LH	71	1	39	1.7	0.7	71	0	39	0	7.6	2.4
MF	55	0	2	2.2	-1.3	58	0	7	0	14.8	1.5
M	168	4	100	3.3	1.6	176	0	100	0	11.6	0.1
N	232	2	7	2.9	0.4	246	0	7	0	10.2	2.5

TABLE 10

MONTHLY MONITORING OF RADIOSONDE OBSERVATIONS (COSNA)
MONITORING CENTRE: BRACKNELL
MONTH: February 1996

Monitoring procedures

Period		:One calendar month.
Data monitored		:Reports from each unique identifier for radiosonde TEMPs.
Area monitored		:0°N - 90°N, 100°W - 40°E
Standard of comparison		:Background field from Bracknell global model.
Position		:Average latitude and longitude for period.
Observation times		:00, 12 UTC.
Level monitored		:100 hPa.
Element monitored		:GEOPOTENTIAL HEIGHT in metres
Parameters monitored	:NUM OBS	:Number of observations available at level shown during period.
	:NUM GROSS	:Number of gross errors at level shown during period.
	:% REJ	:Percentage of observations rejected by quality control at level shown during period.
	:SD	:SD of difference of observations from background values at level shown excluding those with gross errors.
	:BIAS	:Mean difference of observations from background values at level shown excluding those with gross errors.

GROSS ERROR LIMITS :Defined in Appendix I.1

WMO IDENT	OBS TIME	ELM	LEV	NUM OBS	NUM GROSS	SD	RMS	BIAS
DBND	00	Z	100	5	0	23.1	23.8	5.8
DBND	12	Z	100	6	0	10.2	30.4	28.7
EHOA	00	Z	100	1	0	0.0	18.0	18.0
EHOA	12	Z	100	14	0	19.6	36.2	30.4
FN	00	Z	100	1	0	0.0	8.0	-8.0
FNOR	00	Z	100	11	0	19.8	28.4	20.4
FNOR	12	Z	100	10	0	30.8	30.9	3.4
FNOU	00	Z	100	11	0	76.3	134.6	110.9
FNOU	12	Z	100	10	0	80.7	130.1	102.0
FNPH	00	Z	100	12	0	20.3	20.6	3.4
FNPH	12	Z	100	13	0	18.9	19.0	-2.2
FNRS	00	Z	100	7	0	16.9	25.4	19.0
FNRS	12	Z	100	4	0	2.7	8.5	-8.0
GACA	00	Z	100	26	0	22.1	25.0	11.8
GACA	12	Z	100	26	0	25.9	29.5	14.3
JBOA	00	Z	100	1	0	0.0	12.0	12.0
JCCX	00	Z	100	1	0	0.0	4.0	4.0
JDWX	00	Z	100	1	0	0.0	30.0	30.0
LDWR	00	Z	100	25	0	14.4	14.6	1.9
LDWR	12	Z	100	24	0	13.3	13.3	-0.5
OXYH2	00	Z	100	14	0	30.7	31.3	5.9
OXYH2	12	Z	100	15	0	23.2	27.4	14.5
SHIPAF	00	Z	100	12	0	18.5	32.7	26.9
SHIPAF	12	Z	100	9	0	20.0	65.0	61.9
SHIPS	00	Z	100	5	0	12.1	14.3	7.6
SHIPS	12	Z	100	2	0	42.0	103.9	95.0
V/GI	00	Z	100	1	0	0.0	1.0	-1.0
V2EZ	00	Z	100	9	0	19.6	19.6	0.9
V2EZ	12	Z	100	10	0	24.9	28.6	14.1
V2GH	00	Z	100	13	0	10.8	13.9	8.8
V2GH	12	Z	100	24	0	24.1	27.9	14.0
V2LV	00	Z	100	28	0	19.0	23.1	13.1
V2LV	12	Z	100	24	0	16.4	22.1	14.8
WTEA	00	Z	100	1	0	0.0	21.0	21.0
ZDLG	00	Z	100	1	0	0.0	69.0	69.0
03953	00	Z	100	25	0	20.7	24.4	12.8
03953	12	Z	100	27	0	17.2	30.8	25.6
04018	00	Z	100	29	0	23.5	31.7	21.3
04018	12	Z	100	28	0	23.4	32.6	22.8
04220	00	Z	100	27	0	19.5	23.2	12.5
04220	12	Z	100	29	0	18.3	20.5	9.4
04270	00	Z	100	27	0	19.6	23.2	12.5
04270	12	Z	100	28	0	22.9	24.0	7.5
04339	00	Z	100	26	0	20.1	25.0	14.8
04339	12	Z	100	28	0	19.1	21.4	9.6
04360	00	Z	100	24	0	20.7	30.2	22.0
04360	12	Z	100	28	0	18.3	25.4	17.7
08001	00	Z	100	24	0	16.4	22.1	14.7
08001	12	Z	100	27	0	17.9	20.5	10.0
08508	00	Z	100	28	0	17.0	25.0	18.4
08508	12	Z	100	29	0	16.2	26.6	21.1
08594	00	Z	100	1	0	0.0	11.0	-11.0
08594	12	Z	100	10	0	38.6	69.2	57.5
60020	00	Z	100	25	0	17.6	33.7	28.7
60020	12	Z	100	28	0	18.9	31.5	25.2
71600	00	Z	100	24	0	16.4	31.9	27.3
71600	12	Z	100	26	0	17.3	26.4	20.0
72201	00	Z	100	24	0	29.2	48.2	38.4
72201	12	Z	100	27	0	25.8	46.3	38.4
72402	00	Z	100	23	0	24.9	42.4	34.3
72402	12	Z	100	26	0	28.3	34.2	19.3

WMO IDENT	OBS TIME	ELM	LEV	NUM OBS	NUM GROSS	SD	RMS	BIAS
74494	00	Z	100	18	0	25.1	25.6	-5.1
74494	12	Z	100	25	0	23.3	23.5	3.2
78016	12	Z	100	26	0	28.9	29.9	7.3

TABLE 11

MONTHLY MONITORING OF RADIOSONDE OBSERVATIONS (COSNA)
MONITORING CENTRE: BRACKNELL
MONTH: February 1996

Monitoring procedures:

Period		:One calendar month.
Data monitored		:Reports from each unique identifier for radiosonde TEMPs.
Area monitored		:0°N - 90°N, 100°W - 40°E
Standard of comparison		:Background field from Bracknell global model.
Position		:Average latitude and longitude for period.
Observation times		:00, 12 UTC.
Level monitored		:500 hPa.
Element monitored		:GEOPOTENTIAL HEIGHT in metres
Parameters monitored	:NUM OBS	:Number of observations available at level shown during period.
	:NUM GROSS	:Number of gross errors at level shown during period.
	:% REJ	:Percentage of observations rejected by quality control at level shown during period.
	:SD	:SD of difference of observations from background values at level shown excluding those with gross errors.
	:BIAS	:Mean difference of observations from background values at level shown excluding those with gross errors.

GROSS ERROR LIMITS :Defined in Appendix I.1

WMO IDENT	OBS TIME	ELM	LEV	NUM OBS	NUM GROSS	SD	RMS	BIAS
DBND	00	Z	500	5	0	8.6	9.8	4.6
DBND	12	Z	500	6	0	6.3	7.9	4.7
EHOA	00	Z	500	1	0	0.0	19.0	19.0
EHOA	12	Z	500	15	0	8.6	25.4	23.9
FN	00	Z	500	1	0	0.0	3.0	-3.0
FNOR	00	Z	500	11	0	8.9	13.6	10.4
FNOR	12	Z	500	11	0	8.8	10.8	6.3
FNOU	00	Z	500	5	7	55.0	67.7	39.4
FNOU	12	Z	500	5	5	57.4	65.0	30.6
FNPH	00	Z	500	12	0	10.7	10.8	-1.8
FNPH	12	Z	500	14	0	13.5	16.6	-9.8
FNRS	00	Z	500	7	0	16.0	17.2	6.4
FNRS	12	Z	500	6	0	11.9	11.9	0.5
GACA	00	Z	500	26	0	18.2	18.3	2.3
GACA	12	Z	500	26	0	12.4	13.7	5.8
JBOA	00	Z	500	1	0	0.0	7.0	-7.0
JCCX	00	Z	500	1	0	0.0	6.0	6.0
JDWX	00	Z	500	1	0	0.0	2.0	2.0
JIVB	00	Z	500	1	0	0.0	12.0	12.0
LDWR	00	Z	500	26	0	12.3	12.3	-0.7
LDWR	12	Z	500	25	0	14.3	15.0	-4.6
OXYH2	00	Z	500	14	0	13.8	18.1	-11.7
OXYH2	12	Z	500	15	0	13.3	13.8	3.8
SHIPAF	00	Z	500	13	0	15.0	20.7	14.4
SHIPAF	12	Z	500	10	0	8.7	16.7	14.3
SHIPS	00	Z	500	5	0	8.9	11.3	7.0
SHIPS	12	Z	500	2	0	1.0	5.1	5.0
V/GI	00	Z	500	1	0	0.0	9.0	-9.0
V2EZ	00	Z	500	9	0	14.7	14.7	0.4
V2EZ	12	Z	500	10	0	15.5	15.5	-0.8
V2GH	00	Z	500	13	0	10.2	10.3	-0.7
V2GH	12	Z	500	23	0	14.7	14.9	-2.2
V2LV	00	Z	500	29	0	19.1	19.1	-1.2
V2LV	12	Z	500	28	0	10.2	10.2	-0.4
WTEA	00	Z	500	1	0	0.0	6.0	6.0
ZDLG	00	Z	500	1	0	0.0	60.0	60.0
03953	00	Z	500	28	0	13.5	14.1	4.0
03953	12	Z	500	29	0	10.7	11.4	3.7
04018	00	Z	500	29	0	21.5	21.6	2.0
04018	12	Z	500	28	0	18.7	19.4	5.3
04220	00	Z	500	29	0	16.4	16.6	2.8
04220	12	Z	500	29	0	20.6	20.8	-2.3
04270	00	Z	500	29	0	17.2	17.3	-2.0
04270	12	Z	500	28	0	21.3	21.3	-1.3
04339	00	Z	500	28	0	27.8	27.8	-0.1
04339	12	Z	500	29	0	13.8	13.8	1.1
04360	00	Z	500	27	0	17.5	17.5	0.3
04360	12	Z	500	29	0	16.6	16.6	1.1
08001	00	Z	500	27	0	13.9	13.9	0.3
08001	12	Z	500	27	0	14.5	15.5	-5.3
08508	00	Z	500	28	0	10.4	12.2	6.4
08508	12	Z	500	29	0	9.5	10.1	3.4
08594	00	Z	500	1	0	0.0	8.0	-8.0
08594	12	Z	500	17	3	17.5	17.5	1.1
60020	00	Z	500	25	0	12.9	21.1	16.6
60020	12	Z	500	28	0	11.6	18.9	14.9
71600	00	Z	500	24	0	12.9	21.0	16.6
71600	12	Z	500	27	0	12.8	14.1	5.9
72201	00	Z	500	27	0	10.1	18.5	15.5
72201	12	Z	500	29	0	9.5	13.7	9.9
72402	00	Z	500	27	0	13.1	19.2	14.0

WMO IDENT	OBS TIME	ELM	LEV	NUM OBS	NUM GROSS	SD	RMS	BIAS
74494	00	Z	500	25	0	19.8	19.8	1.0
74494	12	Z	500	27	0	17.2	17.4	1.9
78016	12	Z	500	26	0	12.6	12.7	0.8

TABLE 12

MONTHLY MONITORING OF RADIOSONDE OBSERVATIONS (COSNA)
MONITORING CENTRE: BRACKNELL
MONTH: February 1996

Monitoring procedures

Period		:One calendar month.
Data monitored		:Reports from each unique identifier for radiosonde TEMPs.
Area monitored		:0°N - 90°N, 100°W - 40°E
Standard of comparison		:Background field from Bracknell global model.
Position		:Average latitude and longitude for period.
Observation times		:00, 12 UTC.
Level monitored		:100 hPa.
Element monitored		:VECTOR WIND in m s^{-1}
Parameters monitored	:NUM OBS	:Number of observations available at level shown during period.
	:NUM GROSS	:Number of gross errors at level shown during period.
	:% REJ	:Percentage of observations rejected by quality control at level shown during period.
	:UBIAS,VBIAS	:Mean difference of observations of U and V components from background values at level shown excluding those with gross errors.
	:RMS	:Root Mean Square difference of observations from background values at level shown excluding those with gross errors.

GROSS ERROR LIMITS :Defined in Appendix I.2

WMO IDENT	OBS TIME	ELM	LEV	NUM OBS	NUM GROSS	% REJ	RMS	UBIAS	VBIAS
DBND	00	V	100	4	0	0	2.1	-0.3	0.0
DBND	12	V	100	6	0	0	2.1	0.1	-2.5
EHOA	00	V	100	1	0	0	2.1	-8.6	-13.4
EHOA	12	V	100	14	0	0	2.1	-7.2	-0.1
FN	00	V	100	1	0	0	9.5	2.7	-0.3
FNOR	00	V	100	4	0	0	9.5	-1.3	-2.1
FNOR	12	V	100	3	0	0	9.5	-1.4	-4.7
FNOU	00	V	100	11	0	0	9.5	-2.9	0.7
FNOU	12	V	100	10	0	20	4.3	-9.8	-1.1
FNPH	00	V	100	12	0	0	10.9	-1.7	-0.2
FNPH	12	V	100	13	0	0	3.8	-0.6	0.0
FNRS	00	V	100	7	0	0	4.8	1.8	-2.9
FNRS	12	V	100	3	0	0	4.8	-4.5	0.1
GACA	00	V	100	25	0	0	4.8	-1.7	0.2
GACA	12	V	100	26	0	0	3.7	-2.2	-0.9
JBOA	00	V	100	1	0	0	3.5	2.9	0.6
JCCX	00	V	100	1	0	0	3.5	-0.3	7.9
LDWR	00	V	100	21	0	0	3.5	-0.7	-0.6
LDWR	12	V	100	24	0	0	3.7	-0.2	-1.3
OXYH2	00	V	100	13	0	0	2.8	-1.2	0.2
OXYH2	12	V	100	14	0	0	2.1	-0.5	0.0
SHIPAF	00	V	100	3	0	0	2.3	-3.1	-0.7
SHIPAF	12	V	100	6	0	0	2.3	-0.5	-1.7
SHIPS	00	V	100	1	0	0	2.3	1.8	-3.4
SHIPS	12	V	100	1	0	0	2.3	-6.0	1.5
V/GI	00	V	100	1	0	0	2.3	1.6	-8.3
V2EZ	00	V	100	9	0	0	2.3	1.3	0.5
V2EZ	12	V	100	8	0	0	2.3	-1.8	-0.1
V2GH	00	V	100	13	0	0	2.3	1.6	-0.6
V2GH	12	V	100	24	0	0	3.9	-1.9	-0.8
V2LV	00	V	100	28	0	0	2.3	1.2	-0.9
V2LV	12	V	100	21	0	0	3.7	0.4	-0.1
WTEA	00	V	100	1	0	0	3.0	0.8	-0.9
03953	00	V	100	25	0	0	3.1	-1.0	-0.2
03953	12	V	100	27	0	0	2.7	-1.0	-0.9
04018	00	V	100	27	0	0	2.8	-0.8	-1.2
04018	12	V	100	28	0	0	3.2	-0.9	-0.4
04220	00	V	100	27	0	0	2.5	0.2	0.8
04220	12	V	100	28	0	0	3.1	-0.2	0.6
04270	00	V	100	26	0	0	2.7	1.6	0.8
04270	12	V	100	27	0	0	5.4	0.3	0.7
04339	00	V	100	26	0	0	3.1	0.5	0.0
04339	12	V	100	26	0	0	2.1	0.6	-1.8
04360	00	V	100	23	0	0	3.0	-0.5	0.0
04360	12	V	100	27	0	0	4.0	-0.9	-1.1
08001	00	V	100	24	0	0	4.4	0.1	0.8
08001	12	V	100	27	0	0	3.5	-1.3	0.7
08508	00	V	100	28	0	0	4.4	2.0	0.5
08508	12	V	100	29	0	0	3.7	-0.8	-0.4
08594	00	V	100	1	0	0	3.3	-7.6	4.6
08594	12	V	100	11	0	9	3.3	2.2	3.3
60020	00	V	100	25	0	0	3.1	0.1	-0.3
60020	12	V	100	28	0	0	4.8	-2.6	0.0
71600	00	V	100	24	0	0	4.9	0.9	0.3
71600	12	V	100	26	0	0	3.2	-0.3	0.2
72201	00	V	100	23	0	0	4.6	1.5	-1.1
72201	12	V	100	25	0	4	5.2	-0.9	0.2
72402	00	V	100	21	0	0	4.3	-0.8	1.9
72402	12	V	100	26	0	0	4.3	-1.1	0.5
74494	00	V	100	15	0	0	3.6	0.1	1.2
74494	12	V	100	25	0	0	3.2	-1.5	0.6
78016	12	V	100	25	0	0	3.9	-1.8	1.0

TABLE 13

MONTHLY MONITORING OF RADIOSONDE OBSERVATIONS (COSNA)
MONITORING CENTRE: BRACKNELL
MONTH: February 1996

Monitoring procedures

Period :One calendar month.

Data monitored :Reports from each unique identifier for radiosonde TEMPs.

Area monitored :0°N - 90°N, 100°W - 40°E

Standard of comparison :Background field from Bracknell global model.

Position :Average latitude and longitude for period.

Observation times :00, 12 UTC.

Level monitored :500 hPa.

Element monitored :VECTOR WIND in m s^{-1}

Parameters monitored :NUM OBS :Number of observations available at level shown during period.

:NUM GROSS :Number of gross errors at level shown during period.

:% REJ :Percentage of observations rejected by quality control at level shown during period.

:UBIAS,VBIAS: Mean difference of observations of U and V components from background values at level shown excluding those with gross errors.

:RMS :Root Mean Square difference of observations from background values at level shown excluding those with gross errors.

GROSS ERROR LIMITS :Defined in Appendix I.2

WMO IDENT	OBS TIME	ELM	LEV	NUM OBS	NUM GROSS	% REJ	RMS	UBIAS	VBIAS
DBND	00	V	500	5	0	0	4.0	2.2	-0.7
DBND	12	V	500	6	0	0	4.0	-3.0	0.8
EHOA	00	V	500	1	0	0	4.0	-2.7	1.1
EHOA	12	V	500	15	0	0	4.0	-0.5	-2.1
FN	00	V	500	1	0	0	3.3	-2.0	2.2
FNOR	00	V	500	5	0	0	3.3	0.0	-0.2
FNOR	12	V	500	3	0	0	3.3	0.4	-0.2
FNOU	00	V	500	12	0	0	3.3	-0.3	-2.6
FNOU	12	V	500	10	0	0	4.0	-2.8	-2.2
FNPH	00	V	500	12	0	0	4.1	-1.2	-0.5
FNPH	12	V	500	14	0	0	3.6	0.0	0.0
FNRS	00	V	500	7	0	0	3.6	-2.8	1.7
FNRS	12	V	500	5	0	0	3.6	5.4	-0.3
GACA	00	V	500	26	0	0	3.6	0.9	-0.9
GACA	12	V	500	26	0	0	4.3	-1.5	-0.8
JBOA	00	V	500	1	0	0	4.2	-1.5	-0.5
JCCX	00	V	500	1	0	0	4.2	-1.8	-2.8
JDWX	00	V	500	1	0	0	4.2	-1.6	-0.2
JIVB	00	V	500	1	0	0	4.2	-1.5	-1.1
LDWR	00	V	500	26	0	0	4.2	0.7	-0.7
LDWR	12	V	500	25	0	0	4.2	1.2	0.1
OXYH2	00	V	500	14	0	0	4.1	-1.8	-1.3
OXYH2	12	V	500	15	0	0	2.9	-0.5	-0.2
SHIPAF	00	V	500	13	0	0	4.0	-1.3	-1.8
SHIPAF	12	V	500	10	0	0	4.2	-1.6	-0.3
SHIPS	00	V	500	4	0	0	2.8	3.7	0.4
SHIPS	12	V	500	2	0	50	2.8	-13.8	6.7
V/GI	00	V	500	1	0	0	2.8	4.4	-1.1
V2EZ	00	V	500	9	0	0	2.8	0.5	0.6
V2EZ	12	V	500	9	0	0	2.8	0.2	2.3
V2GH	00	V	500	12	0	0	2.8	2.3	1.4
V2GH	12	V	500	23	0	0	3.3	0.4	-0.3
V2LV	00	V	500	29	0	0	2.9	-0.1	-0.1
V2LV	12	V	500	27	0	0	2.6	-1.3	0.6
WTEA	00	V	500	1	0	0	3.8	-0.8	0.2
ZDLG	00	V	500	1	0	0	2.6	5.4	-4.9
03953	00	V	500	28	0	0	3.0	0.5	0.6
03953	12	V	500	29	0	0	3.9	-1.1	0.2
04018	00	V	500	29	0	0	4.5	0.2	0.7
04018	12	V	500	28	0	0	5.3	1.3	0.3
04220	00	V	500	29	0	3	5.5	0.8	0.4
04220	12	V	500	29	0	0	6.5	0.8	-0.6
04270	00	V	500	29	0	0	2.9	1.0	1.5
04270	12	V	500	28	0	0	3.8	1.8	0.3
04339	00	V	500	27	0	0	4.5	-1.1	1.3
04339	12	V	500	27	0	0	3.8	-1.2	-0.4
04360	00	V	500	27	0	0	3.6	-0.9	1.0
04360	12	V	500	29	0	3	4.8	-1.2	0.5
08001	00	V	500	25	0	0	3.5	0.3	-0.2
08001	12	V	500	27	0	0	3.6	-0.9	-1.0
08508	00	V	500	28	0	0	4.0	-0.5	0.0
08508	12	V	500	29	0	0	3.1	-1.4	-1.2
08594	00	V	500	1	0	0	3.4	0.9	-0.8
08594	12	V	500	19	0	0	3.4	-2.0	-1.6
60020	00	V	500	25	0	0	3.0	1.4	1.3
60020	12	V	500	28	0	0	5.8	1.9	-0.1
71600	00	V	500	24	0	0	3.2	0.9	1.9
71600	12	V	500	27	0	0	5.7	2.3	0.5
72201	00	V	500	27	0	0	4.9	1.2	-0.6
72201	12	V	500	28	0	0	3.0	0.6	-1.1
72402	00	V	500	27	0	0	4.5	1.9	1.3

WMO IDENT	OBS TIME	ELM	LEV	NUM OBS	NUM GROSS	% REJ	RMS	UBIAS	VBIAS
72402	12	V	500	28	0	0	5.6	1.0	0.9
74494	00	V	500	25	0	0	3.9	-0.7	1.9
74494	12	V	500	27	0	0	4.1	-0.7	1.3
78016	12	V	500	26	0	0	3.5	2.9	-1.6

APPENDIX I

1. The gross error limits for observation minus background differences of geopotential height in Tables 5, 10 and 11 are:-

Level (hPa)	Geopotential height (metres)
1000	100
850	100
700	100
500	150
400	175
300	200
250	225
200	250
150	275
100	300
70	375
50	400
30	450

The weighted RMS values used in Table 5,10 and 11 are calculated using the following weights:-

Level (hPa)	Weight
1000	3.70
850	3.40
700	2.90
500	2.20
400	1.90
300	1.60
250	1.50
200	1.37
150	1.19
100	1.00
70	0.87
50	0.80
30	0.64

2. The gross error limits for observation minus background differences of windspeed in Tables 6,12 and 13 are:-

Level (hPa)	Windspeed m s^{-1}
1000	35
850	35
700	40
500	45
400	50
300	60
250	60
200	50
150	50
100	45